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Review of Educational Research

VOL. XXIII, NO. 2 APRIL 1953

THE EDUCATIONAL PROGRAM: EARLY AND MIDDLE CHILDHOOD

AMERICAN EDUCATIONAL RESEARCH ASSOCIATION

A Department of the
NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES
1201 Sixteenth St., N.W., Washington 6, D. C.

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Active and associate members of the Association pay dues of $8 annually. Of this amount $5 is for subscription to the REVIEW. The REVIEW is published in February, April, June, October, and December. Beginning with the February 1949 issue single copies are priced at $1.50.

Entered as second-class matter April 10, 1931, at the post office at Washington, D. C., under the Act of August 24, 1912.

REVIEW OF EDUCATIONAL RESEARCH

Official Publication of the American Educational Research Association.
Contents are listed in the Education Index.

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Vol. XXIII, No. 2 **April 1953**

The Educational Program: Early and Middle Childhood

Reviews of the literature pertinent to the educational program of early and middle childhood since the issuance of Vol. XX, No. 4, Vol. XXI, No. 4, and Vol. XXII, No. 2 dealing with specific subjectmatter areas, and Vol. XXI, No. 3 dealing with the curriculum.

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This issue of the REVIEW was prepared by the Committee on the Educational Program: Early and Middle Childhood

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INTRODUCTION

THIS issue of the REVIEW marks a new departure in bringing together the research related to educational programs for young children. Formerly, each REVIEW would deal with one portion or aspect of this program in considerable detail. This approach met one type of need and thus had considerable value. There are, however, other needs related to seeing the program as a whole and to examining some of the more comprehensive educational problems of early and middle childhood. Out of an attempt to deal with this more comprehensive problem, this issue was developed.

Suffice it to say, the educational program for young children does not exist as a corporate unit, a fact which caused a great deal of difficulty in dealing with the several chapters of this issue. Suffice it to say also, many of the references quoted to document present thinking and practices should not be dignified by the term research. Many are surveys and compilations of what may be called primary data; others are little more than one person's reactions to specific practices; few are critical and controlled studies in which alternative hypotheses were examined. Within these limits, then, this issue may be viewed as a kind of mirror held up to see the kinds of contributions being made to long-continuing educational problems of critical importance. Perhaps this attempt to take a comprehensive look at one important segment of America's educational programs may serve to stimulate additional study of some of the important issues revealed in the subsequent chapters. Further, it is likely that other segments of our educational program share in perhaps greater degree, the plight revealed in this issue.

The problem of determining the framework within which our educational program can be examined is not an easy one. The organization of this issue has some value in that it is focused as much as possible on the common problems of the curriculum and instructional program. An obvious omission in the outline is in the area of language development. This omission is deliberate not because of this area's lack of importance, but because of the adequacy of previous REVIEWS in treating language development. The Committee feels that with this beginning formulation, future committees can go on to capitalize on the progress that has been made and round out in future reviews of Research what have been persistent but recently ignored problems in the development of educational programs for early and middle childhood.

VIRGIL E. HERRICK, *Chairman*
Committee on the Educational Program:
Early and Middle Childhood

CHAPTER I

The Educational Program: Early and Middle Childhood—An Overview

VIRGIL E. HERRICK and MARGARET L. CARROLL

THE educational program for early and middle childhood is composed of three and usually separate parts: the nursery school, the kindergarten, and the elementary school. The program for early and middle childhood includes children of ages three to 12 or 13. In this program the nursery school usually provides for children aged three to four, the kindergarten for children aged five (some kindergartens admit four-year-olds), and the elementary school for ages six to 12 and 13. There is an overlapping of ages at all points. The greatest amount of controversy as to institutional responsibility centers at age four.

While Caswell and Foshay (3), Davis (5), Forest (8), Hymes (16), and Otto (30) propose that the educational program for young children be seen and planned in some continuous over-all fashion, the above units come from different historical backgrounds and sources of support and vary widely in their presence in the educational program of any given community. The elementary school is a part of all programs of public and private education for young children. The kindergarten is found much less frequently, but Deffenbaugh (7), Gans, Stendler, and Almy (10), and Goodykoontz, Davis, and Gabbard (11) indicated that the kindergarten and the primary grades are closer to the elementary school in existence and practice than to the nursery school.

The inconsistencies in the support and control of educational programs for young children have been brought out by Simpson (33). He indicated that in California, the state and school districts support the elementary-school program; kindergartens are supported by the local district entirely; nursery schools are supported by the colleges or on a private basis; and child-care centers have been supported by the federal government. He concluded that this picture is inconsistent; it does not make sense; it does not reflect soundly developed educational policy.

It is evident from the study by Goodykoontz and others (12) that the depression, and the war period which followed, accelerated the development of educational services for the young child. While not as dramatic during the past dozen years, the extension of education downward to young children parallels the similar extension upward of higher education and adult programs for young men and women and adults.

The motives for such extension downward are mixed and complicated. Care for children of working mothers, more adequate personal and social development for children, and the concept that the public school should provide for children of all ages, combine to actuate the interest and support for educational programs at this level.

The Nursery School

The Midcentury White House Conference on Children and Youth (22) defined the nursery school as a day school whose program and environment are planned to stimulate learning and development of children too young to go to kindergarten. Neterer and Wagoner (27) regarded it as an educational center for all-around growth where emphasis is placed on emotional as well as mental, physical, and social adjustment. The nursery-school program is seen as a center for research on child development, as a federally supported program of child care, as an educational program to be developed as a private business venture, or as a cooperative community undertaking. Nursery schools are the creation of the last 25 years; only three were in existence by 1920 (11).

Moustakas and Berson (24) identified 3416 nursery schools and child-care centers in the United States in their 1951 directory. No one knows how many children are actually in nursery schools of all sorts. In 1947 Davis (5) reported that of the 812,230 children aged two to five attending schools in cities and towns, 77 percent, or 625,783, were in public-school kindergartens. Of the rest, 63,466 (8 percent) were five-year-olds enrolled in the primary schools; 48,994 (6 percent) were enrolled in kindergartens administered or controlled by denominational groups; 38,735 (5 percent) were enrolled in federally financed nursery schools; and the remaining 35,252 children (4 percent), were reported by nursery schools and kindergartens conducted under private control, chiefly as tuition schools. States on the Pacific Coast have the largest proportion of their children aged two to five enrolled in school (33 percent). The smallest portions are in the East and West South-Central and South Atlantic. The average for all states is around 20 percent.

The war years 1942-1945 produced the major changes in state legislation (32). Lowered or adjusted school admission ages, permissive laws for the establishment of nursery schools, authority for local districts to use local funds for nursery schools, and the authorization of the acceptance of federal funds for child-care programs indicated the major aspects of such legislation. In addition, some cities and a few states have developed a plan for the yearly inspection and licensing of institutions caring for young children. Louisiana, Michigan, New Jersey, New York. and Wisconsin have such laws.

The Kindergarten Program

The primary purpose of the kindergarten is the education of children under six years of age. In addition, Davis (5) reported such secondary purposes as parent guidance and education; laboratory for preprofessional study and practice in teaching, child care, and home and family life; and as a center for experimentation and research. Few kindergartens are concerned with many of these secondary purposes.

The National Education Association (26) summarized the specific purposes of the kindergarten as: (a) to promote children's health; (b) to promote children's safety; (c) to help children get accustomed to working alone in spite of the presence of others; (d) to help children get accustomed to working with others in groups; (e) to give children a broad opportunity for contacts with other children and with adults; (f) to give children a variety of experiences that will help reveal their interests and aptitudes; and (g) to get children ready for the reading, writing, and number work that they will encounter in the first grade. The general principle that colors most of the kindergarten activities is that of readiness for the future work of the elementary school.

Logan (19), in her comparative study of presentday Mexican and American kindergartens, presented the latter as having the following points of emphasis: (a) being a part of an integrated continuous program for the entire area of childhood education in the elementary school; (b) making a more general effort to organize the curriculum around the needs and interests of the growing child in a democratic society; (c) revealing a more general modification of the kindergarten practice following an awareness of the educational value of activities which have meaning to the child; and (d) making continued attempts to effect a closer relationship between the child, home, school, and community.

The Census Bureau (37) reported that in October 1950 there were 2,816,000 children of age five in the total population. Of these, 872,000 were enrolled in kindergartens. There were also 59,000 children of age six enrolled in kindergartens. In addition there were 585,000 children of age five enrolled in the elementary grades. Thus 51.74 percent of all five-year-old children in the country were enrolled in public or private kindergartens or elementary grades. In contrast, 70 percent of all six-year-olds and 98 percent of all children between seven and 13 were in school. Davis (6) reported that in January 1950, of the 8,595,088 children in the kindergarten and Grades I thru III in the United States and outlying areas, 11.6 percent were in kindergarten, 34.4 percent in the first grade, and 27.6 and 26.4 percent, respectively, in the second and third grades. The kindergarten, while accepted in theory as a necessary part of educational programs for young children, is still far from being a part of general practice.

The Elementary School

In terms of ages, grades included, and educational purposes to be achieved there is no simple way of defining the elementary school. As Caswell and Foshay (3) have pointed out, the traditional organization for the elementary school is the eight-grade school. At present, the six-year elementary school is accepted as the most desirable unit in theory. LeBaron's study in New York State (18), the Buffalo survey (29), and the Biennial Survey of Education in the United States (39) showed

that while the percentages vary widely from state to state, more than 50 percent of all elementary schools still include the seventh and eighth grades.

Caswell and Foshay (3), Herrick and Schroeder (15), and Loomis (20) claimed that there is no research or convincing argument of a theoretical nature which can be presented to show that the elementary school should be five, six, or seven years in length. After surveying practice, Loomis (20) suggested that there was sufficient evidence to support the use of the terms "primary school" and "intermediate school" as symbols for the rather clearly differentiated segments of the elementary school. Herrick (13, 14), Herrick and Schroeder (15), and Tyler and Herrick (34) surveyed a number of school systems and noted differences in emphasis given by the kindergarten and primary grades to: (a) language development, arithmetic skills, and social competence rather than content knowledge, critical thinking and writing ability; (b) children as an organizing center rather than subjectmatter; (c) teacher-per-group organization rather than departmental; and (d) learning activities organized around interests, child problems, and persistent problems of living rather than concepts, geographic areas, and specific skills and technics.

The over-all role of the elementary school, like that of secondary school, is to develop good citizenship in a democratic society (4, 17, 31). Good citizenship is defined variously (23, 25, 28). The definitions embrace the following nine areas: physical development, personal and emotional development, ethical development, social development, social environment, physical environment, esthetic development, communications, and quantitative relationships.

Elementary-School Population

The U. S. Office of Education (38) predicted that the impact of the record number of births on the elementary school will reach its peak during the years 1955-1960. According to the Census Bureau (36), in October 1950 the number of children seven to 13 years old attending school was nearly 18,000,000, an increase of about 725,000 over the previous year, and the number of children five and six years old enrolled in the elementary grades and in kindergarten was nearly 4,300,000. In addition there were many children two and one-half to five years old attending nursery schools. This increased enrolment has raised the pupil load for each teacher. The U. S. Office of Education (40) found the average pupil-teacher load in 1949-50, excluding principals and supervisors, to be 24.4.

Geographic Location and Economic Background

A condition of mobility has tended to intensify population pressures in some geographic sections. California (2) reported a 51.9-percent population increase in the period 1940-1950. That 23 percent of the children

one to 13 years of age changed residence during the past years, 1947-1951, is reported by the U. S. Bureau of the Census (35). The Midcentury White House Conference on Children and Youth (22) indicated that a characteristic of thickly populated areas is a low child-adult ratio; in the Northeast and in the West there are approximately 46 children to every 100 adults; in the rural areas in the South there are about 65 children to every 100 adults. The states which provide the poorest educational opportunities for their children are under the heaviest financial strain.

Effect upon the Educational Program of Early and Middle Childhood

A survey of the U. S. Office of Education (38) indicated the strain on physical facilities brought about by the population pressures. In this survey the data from 25 states showed that only 35 percent of elementary students are housed in satisfactory school plants while 38 percent and 27 percent are housed in fair or unsatisfactory school plants, respectively. The California Elementary School Administrators Association (2) described the situation in Richmond, California. At the beginning of World War II, the enrolment in kindergarten thru sixth grade was 3112; in June 1944, it was 12,501; and in 1950, the enrolment had increased to 41 percent over the 1944 level. Coexistent with the physical facilities problem is the one of inadequate teacher supply. Maul (21) reported that in 1951, colleges thruout the nation would produce a total of only 32,196 graduates who would have completed a four-year elementary-education program in time to teach during the 1951-52 school year, while the minimum annual need for replacement is 100,000. Bosshart (1) pointed out that the state of New Jersey had a 15-percent increase in teachers with substandard certificates from 1949 to 1950. A report by Fuller, Spooner, and Welte (9) stated that the estimated number of teachers needed for the public schools of Connecticut will increase from 11,506 in 1951 to 15,370 in 1963, but that the need for new elementary-school teachers will be more critical from the present thru 1957-58. They see the teacher shortage as a long-range problem which includes the recruitment of students and the expansion of teacher-training facilities in terms of both faculty personnel and physical plants.

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CHAPTER II

Important Factors Affecting the Educational Program

G. MAX WINGO

THE purpose of this chapter is to review certain fundamental factors which affect the program of education for young children. It is taken for granted that formal education is a phenomenon of the total cultural pattern, but the limitations of scope of this chapter do not permit a review of such dimensions. A review of research relating to the general social framework for American education was published recently (18).

A review of the research of the past five years leads this writer to the conclusion that the fundamental ideas which are at present very influential are (a) the relationship of findings in the field of child development to educational practice; (b) the social orientation of the school, particularly the relationship of the school to the community; and (c) certain philosophical bases, particularly those relating to the democratic orientation of the school and the problem of moral and spiritual values in the educational program.

Characteristics of Children in Early and Middle Childhood

A major preoccupation of students of the field has been how to bring educational programs more nearly into line with knowledge about the characteristics of children at this stage of development. A number of comprehensive treatments are available which cover the growth period represented in the elementary school. Among such books are those by Breckenridge and Vincent (11), Gesell and Ilg (21), and Hurlock (25). Blair and Burton (5) devoted their entire book to a study of children from approximately nine years of age to puberty. They also included a list of suggestions for guidance of children in this age level. Millard (34) dealt with the growth of children of elementary-school age and made numerous references to school practices appropriate to this period. Olson (42) has been most influential in developing the hypothesis that school achievement is a function of the total growth of the child. He pointed out a number of implications of developmental theory for school practice.

Bossard (8) approached the problem by investigating the cultural factors which play on the developing child, particularly the influence of the family. He also showed the changing status of childhood in American society. Havighurst (22) studied the course of development in terms of the mastery of certain developmental tasks which are set jointly by the maturing of the organism, the demands of the culture, and the motivations of the self.

Thruout the literature runs the theme of the unity of the organism and the pressing need to bring educational design into accord with developmental theory.

Children's Interests

It has long been advocated that the interests of learners constitute a valuable resource for the educative process, and this concept has probably been most influential in the elementary school. Research into the interests of elementary-school-age children continues, but more is badly needed, particularly with respect to the utilization of children's interests in educational programs. Voberding (50) studied the out-of-school behavior of 11-year-olds and found play with peers to be the overwhelming preference of those studied. Woody (53) made a comprehensive study of children's reading preferences in Michigan. Dietrich and Hunnicutt (16) investigated preferences in art content; Malter (32) studied preferences in illustrative materials, and McCauley (31) in poetry. Witty (52) studied interests in comics, radio and television programs, and motion pictures.

A rather elaborate study was made by Jersild and Tasch (26) using an instrument designed to elicit responses concerning activities desired and those not well liked. All of these studies tend to emphasize the fact that interests are a function of the environment as well as of internal motivations and suggest that the development and utilization of worthy interests is an important aspect of education.

Individual Differences

Another aspect of development which affects the educational program for children in the elementary school is the existence of individual differences. The literature indicates the willingness of teachers and administrators to accept the fact of individual differences but uncertainty as to how the problem can be handled most successfully in the classroom. Jones (27) reported results indicating superiority in achievement for teaching children on individual levels as opposed to mass-teaching procedures. Lyons (30) and Bond and Handlan (7) made practical suggestions for adapting instruction in reading to individual differences. A committee (48) of school personnel from a number of communities experimented with ways in which teachers might become more sensitive to individual children. The Educational Policies Commission (38) analyzed the waste of human resources caused by school programs inappropriate for gifted children and made proposals for remedying this defect.

Cook (15) pointed out that individual differences are not eliminated by teaching and that differences grow greater as children progress upward thru the grades. He proposed as a fundamental working approach the following propositions: (a) We recognize that any grade above the primary will contain the entire range of elementary-school ability; (b) Conventional administrative procedures of ability grouping, pro-

motions and retardations, etc., have proved ineffective; and (c) What is needed is a curriculum organized primarily around large units in the social and natural sciences in which children would have a part in planning and evaluating. Cook's general point of view appears widely accepted, but more concrete evidence from classroom experimentation is needed to clarify a number of aspects of it.

The Community School

The literature carries an increasing amount of material relating to the community orientation of the school, and the term "community school" is now firmly established in usage. The community concept is affecting all levels of education, and its influence on the elementary school appears particularly strong.

Muntyan (36, 37) analyzed the community-school concept and found the fundamental difficulty in orienting the school to the community to be the lack of integration among divergent groups in American society. He saw three possible approaches to reconstructing the school: (a) administrative changes involving the improvement of interstaff functions and relationships and staff-pupil relationships, together with the increased use of lay advisory groups of various kinds; (b) the use of community resources as educational mediums for the school, and use of the school by community groups to accomplish community projects. He concluded that neither approach by itself is sufficient and that (c) a satisfactory program must involve an integration of both, to which must be added a study of basic social issues as exemplified in the community.

Blackwell (4) traced the history of the community-school concept and suggested ways in which relationships of school and community can be strengthened and improved. Brussat and Riemer (13) expressed doubt that the elementary school actually functions as a focal point for community life to the degree assumed by some. They questioned the wisdom of planning new neighborhood developments around the neighborhood elementary school as the focus of neighborhood activity.

The most comprehensive treatment of the whole area of community-school relations is by Yeager (54). He advocated the community school as the answer to many of the persistent problems of American public education. Substantially the same concept was developed by Whitelaw (51) in a less detailed treatment.

Attention has also been given to more detailed aspects of the problem. Collings (14) found in a survey of the Detroit schools that teachers cannot safely assume that pupils have had a large background of direct experience in the community. He found the home provided more first-hand community experiences than other agencies, including schools, and that these were mostly associated with recreation. He noted that children's contacts with agencies of government were particularly meager. Gans (19), Hayes (23), and Rios (44) discussed involvement of the com-

munity at large in the educational program, both for enrichment of the school program and for improved public relations.

Pierce (43) identified certain community characteristics which appear to be connected with the quality of the educational program and suggested the hypothesis that schools themselves might be improved by guiding community change in the direction of factors known to be related to good schools. Thorndike (49) found significant correlations between intelligence of school children and the following community factors: educational level of adults, home ownership, quality and cost of housing, proportion of native-born whites, and proportion of professional workers. However, he did not find such community variables closely related to school achievement.

Variations in types of community life have also been studied. Nelson (41) reviewed in detail the changes which are taking place in rural life and analyzed their educational implications. Most of his recommendations point toward the community school. Robinson (46) analyzed the effects on schools of the increasing movement of people from urban to suburban communities. These effects involve problems of financial support and basic points of view related to purposes and practices of education.

In connection with a study of educational problems of special cultural groups, Bigelow and Bauer (3) found a complicating factor to be the maladjustments between rural and urban life. They found these conditions in countries all over the world and most clearly expressed in this country in states of the deep South. They noted that effective education must be indigenous to specific conditions in communities. It is necessary to appraise needs of the community and provide the kind of educational program which will make use of community resources to meet these needs.

Effects of the National Emergency

Prevailing international tensions are reflected in community life and hence affect young children and the elementary schools. Concern over the effects on children is reflected in the literature, particularly since the Korean outbreak. The mental hygiene aspect of a time of crisis has been discussed frequently, as well as the part the school as a community institution should play in a period of partial mobilization. Typical of these articles are those by Miel (33) and Strong (47). The situation was considered so critical that an entire issue of the *National Elementary Principal* (40) was given over to a discussion of these problems.

Philosophical Bases

Most systematic treatments of the philosophical bases of education are directed at the entire educational picture and not confined to the elementary school. Kilpatrick (29) presented his synthesis of a lifetime of study in the philosophy of education, and Brameld (10) investigated in detail four prevailing approaches to the philosophy of education. Bode (6) analyzed the concepts of freedom and morality and raised the question

of whether they should not be reinterpreted in nonabsolutistic terms as a product of human social experience. The two aspects of educational philosophy which appear at present to be of unusual interest in the education of children are the democratic orientation of the school and moral and spiritual (including religious) values in the school program.

Democratic Orientation

There is great preoccupation with the way in which the school can contribute to the maintenance and extension of democratic institutions and the democratic way of life. There is a general feeling expressed that verbal instruction in democratic precepts is insufficient and that behavior changes can occur only thru direct participation in a democratic school life. Robinson and Brady (45) pointed out that most of the social forces and values of a larger society are present in the school and can be used as a means of training for life in the larger community. Beck (2), Emerson (17), Holmes (24), and Moore (35) all advocated direct social experience as promising best to give adequate learning opportunity in democratic social life. Brueckner (12) offered three types of activities which he believed would contribute: (a) direct participation in democratic group activities in the school, (b) informal observation of community processes, and (c) directed study of various aspects of the process of democratic cooperation among individuals and institutions.

Moral-Spiritual Values

The resurgence of interest in education in moral and spiritual values inevitably involves the knotty question of the place of religion in public education. One point of view is that religion is an important aspect of culture and should be involved in the curriculum at all levels (1) so that understanding and appreciation may be cultivated. It has also been maintained that there is a community of spiritual and moral values in which all citizens can participate regardless of sectarian differences (39). Bower (9) reported on a statewide effort to utilize a nonsectarian approach to the problem. Kandel (28) pointed out briefly the difficulties involved in attempting to satisfy all sectarian groups with any type of program for teaching religion. Gauerke (20), in reviewing the legal problems involved, demonstrated that a comprehensive policy relating to religious instruction in the public schools is very far from being realized at the present time. In the absence of such policy it is likely that the elementary school, which is a focal point in the problem, will continue to feel increasing and divergent pressures from a number of segments of society.

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CHAPTER III

Some Basic Problems in the Development of the Instructional Program

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In the development of an educational program attention must be given to determination of objectives, to selection of learning experiences, to organization of those experiences, and to evaluation of the outcomes of instruction. This chapter cites recent studies and writings that bear upon the first three of these fundamental processes, with especial reference to education for early and middle childhood.

Determining Objectives

It is clearly impossible for the schools to emphasize all objectives which may be proposed. Wise choices must be made between alternatives. A first step is to see clearly what those alternatives are. Specialists in the field of curriculum commonly point out the necessity for getting suggestions for objectives thru studies of the learners and of society. While by no means overlooking the former, Smith, Stanley, and Shores (36) stressed the need for careful social diagnosis, particularly in periods of rapid social change, in order to determine the "social realities" which should influence curriculum development. Gans, Stendler, and Almy (18) illustrated how this approach to a definition of the educational task is applicable at the kindergarten-primary levels. Krug (26) recognized the necessity of considering both social and individual factors in determining the purposes of the schools. Tyler (44) emphasized the desirability of getting suggestions for objectives thru studies of the learners and of society and also from recommendations of specialists in various fields. He warned against the danger of relying exclusively upon any one of these sources of objectives.

Studies of the elementary-school child are abundant. They cover a broad range of topics, as may readily be seen from the regular reports of the Clearinghouse for Research in Child Life of the Children's Bureau (13, 14, 15, 16, 17), where studies completed or in process are categorized under the following topics: behavior and personality; educational process; growth and development; physical health and disease; pregnancy and the prenatal period; social, economic, and cultural factors. The kinds of data yielded by investigations of the learner are indicated here by the citing of only a few of them. Baldwin (5) studied the effects of democratic practices in the home on nursery-school children. Stendler and Young (38) interviewed mothers of first-graders to determine the impact of beginning first grade upon the socialization process. Jersild (23) analyzed

children's compositions and used interviews to gather data about the development of the self-concept. Jersild and Tasch (24) inquired into the nature and extent of children's interests. Stendler (37) made a careful study of the awareness of social-class symbols among elementary-school children. The faculty of the University School of Ohio State University (30) traced the physical, social, and emotional development of children.

Studies of the nature of contemporary society are also numerous and varied. In their collection of readings on the problem of order and change, Davis, Bredemeier, and Levy (11) brought together a number of illuminating essays on modern American society, most of which were published originally in the last two decades. In the previously cited volume, Smith, Stanley, and Shores (36) made a detailed analysis of culture, community change, economic change, and the American value system, showing the relationship of these to curriculum problems. The Educational Policies Commission (27) prepared a statement of the problem of moral and spiritual values in education which contains a formulation of the American value system. An unusual approach to the problem of societal analysis and the effort to draw educational implications therefrom is found in a volume edited by Sanford, Hand, and Spalding (34). Competent observers were asked to make an "estimate" of the national security situation, and professional educators were requested to examine that estimate for its educational implications. Several chapters of the 1952 Yearbook of the Association for Supervision and Curriculum Development (3) were given over to analyses of hazards of contemporary society.

It is clearly difficult, and probably unproductive, to maintain a sharp distinction between studies of the learner and of the society. A very useful contribution is made, therefore, by those who explicitly set out to relate the two. The concept of the developmental task is the result of such an effort. Havighurst (20) pointed out the usefulness of regarding developmental tasks as objectives of elementary education and analyzed those tasks commonly faced by nine- and 12-year-olds. He described the achievement of these tasks at three levels of performance: high, medium, and low. Plant's (31) extension of his earlier theoretical formulations provided a penetrating analysis of the impact of the world upon the child. In a short booklet Stratemeyer, McKim, and Sweet (39) elaborated and illustrated a concept of curriculum, developed extensively in an earlier work by some of the same authors and others (40), in which everyday concerns of the learner are the starting points, and these concerns are related to persistent life situations. It is important to note here that data from studies of the learner and of society typically do not result directly in the establishment of objectives. In the process of interpreting the data and conclusions, objectives may be inferred.

Suggestions for objectives made by specialists in various subjectmatter fields are commonly found in volumes on the teaching of those fields, many of which have been brought out recently. The most comprehensive

effort in recent years to get such suggestions was the work of the Mid-Century Committee on Outcomes in Elementary Education. Recognized authorities submitted statements of outcomes in (a) subjectmatter learning and intellectual competence, and (b) personal development and social maturation. After review by a committee of critics, these statements were interpreted by a survey committee, which gave the final structure to the recommendations. The forthcoming report of the Committee will reveal how extensively the specialists have drawn from their knowledge of both the learner and society in drafting their formulations. The resulting statement of recommendations will lean very heavily upon the concept of the developmental task, and will provide another demonstration of the usefulness of that concept.

The process of selection from among suggestions for objectives involves at least two basic considerations: (a) What can be learned? and (b) What should be learned? In one way or another, as Corey and Dale (10) pointed out, these questions and others are answered by every teacher. The validity of the answers to the first depends upon one's knowledge of how learning takes place. Such studies as that of Oakes (29) offer useful guides. His analysis of methods and types of explanations given by kindergarten and elementary-school children for typical natural phenomena led him to conclude, contrary to the views of Piaget, that it is by no means futile to give instruction relating to natural phenomena at the elementary-school level. One of the important implications of Plant's (31) work arises from his conclusion that the problem of readiness is essentially a problem of meaning. He questioned the preoccupation of educators with maturation as a determiner of readiness and believed that children will learn when the experiences of learning offer them some form of enrichment or growth that is not provided by any other of their experiences.

The question of what should be learned is answered by judgments, the validity of which is presumably increased appreciably when the philosophic bases for them can be made explicit. Diederich (12) proposed a set of six values as the essential elements of a good life to serve as an ethical basis for objectives. Smith, Stanley, and Shores (36) offered a set of "validating criteria" useful in selecting objectives. Barton (6) pointed out that a consideration of the general theory of value is necessary to the improvement of curriculum theory about the determination of objectives.

Objectives are commonly stated in many ways, but Shores (35) found evidence of increasing efforts to formulate them in terms of behavioral changes that can be observed, rather than as knowledge to be gained. The Mid-Century Committee on Outcomes in Elementary Education so formulated its statements. The impetus for such behavioral descriptions of objectives has come in large part at the insistence of those concerned with evaluation. Bloom (9) pointed out the importance of a taxonomy of educational outcomes to serve as a basis for more effective communication

among educators, and he argued for their definition in behavioral terms. Tyler (44) maintained that in order to serve as effective guides for the development of an instructional program, statements of objectives must include not only an indication of the behavior to be developed but also an indication of the content with which the behavior is to deal.

The most obvious uses for objectives are in the development and evaluation of the instructional program. It is difficult to see how either of these can proceed without clearly formulated aims to serve as criteria for the selection of materials, content, and methods. Kreitlow's (25) study of the use of objectives by first-grade rural teachers is therefore disconcerting, for he found support for the hypothesis that the teachers had not really thought about what they were trying to do. A study by the Tennessee State Department of Education (42) of that state's educational program revealed data consistent with those of Kreitlow. In approximately 52 percent of the reports analyzed, it was found that no objectives had been formulated in the areas of citizenship and knowledge of the natural and social world. While the data were not always broken down as to level of instruction, the study included reports from both elementary and secondary schools, and there is no reason to believe that the findings are less applicable to elementary than to high schools. Herrick (21) pointed out that the definition and use of objectives at the instructional level are determined by the approach used in selecting and organizing learning experiences. He showed that a subject organization gives priority to certain kinds of objectives, whereas a "needs" approach would involve different priorities.

Selecting Learning Experiences

The problem of selecting learning experiences to attain desired goals becomes important as one recognizes that there may be several ways of attaining a given goal, that any given experience is likely to have more than a single outcome, and that the learning resulting from a particular experience will vary markedly among individuals. It is useful to have formulations of criteria for good learning experiences to serve as guides in the process of selection. The faculty of the Laboratory School of the University of Chicago (45) listed 11 such criteria and illustrated some or all of them in descriptions of selected learning experiences. Thurston (43) used a similar list for the purpose of illustrating the kinds of learning experiences particularly appropriate at the primary-grade level. The 1949 Yearbook of the Association for Supervision and Curriculum Development (4) was developed around seven "aspects of better teaching," which can be viewed as another effort to formulate criteria for effective learning experiences.

The essential concepts in such lists of criteria derive largely from studies of the way in which effective learning takes place. The general inquiry into this problem in the Forty-Ninth Yearbook of the National Society for the Study of Education (28) included chapters by Swenson

and Wingo, who discussed the application of learning principles to early elementary and upper elementary grades respectively. Three studies done at the University of Minnesota by Swenson, Anderson, and Stacey (41) may be cited to illustrate the kinds of intensive inquiry which provided needed insights in the selection of learning experiences. For example, Swenson found that second-grade children learned number combinations more effectively under a method which emphasized the discovery and formulation of generalizations than under methods which minimized such activity. From his study of arithmetic learning at the fourth-grade level, Anderson drew the implication that where learning can take place in different ways, it may be that attention to meaning, relationships, and understanding is more important during the early stages of learning, and practice procedures in the later stages. Stacey's findings, in a study of sixth-grade children engaged in learning meaningful material, pointed to the superiority of active participation involving self-discovery over a method in which correct responses were authoritatively identified for the learner.

The findings of studies in social psychology have led to the recognition of a new dimension in classroom learning situations. Thelen and Tyler (28) outlined a methodology of instruction which takes into account the marked effects of the efficiency and quality of the group processes upon the quality and quantity of school achievement. While they wrote with the high-school class in mind, their observations seem equally appropriate for those who work at the elementary-school level. Grambs (19) outlined basic considerations regarding group processes as they may be used in intergroup education in both elementary and high school. Recent yearbooks of the Association for Supervision and Curriculum Development (2, 3, 4) have given considerable attention to group factors in learning.

Organizing Learning Experiences

Research on the problem of curriculum organization is difficult to identify because of the varying conceptions of what this problem involves. One of the present writers (32) found quite different approaches to the problem in an examination of some texts in education. These differences were further demonstrated in a collection of papers edited by Herrick and Tyler (22), especially in the sections given over to the problems of curriculum organization and sequence. In one way or another those who prepared papers for this monograph attached significance to questions of continuity; to the sequential development of concepts, values, and skills; and to the establishment of meaningful relationships among various learnings. Bellack (7) argued that a validly formulated plan for sequence and grade placement rests upon the application of knowledge yielded by studies in educational philosophy, the psychology of learning, child growth and development, and sociology. Blair (8) explored various theories of learning and selected those which he believed best lead to

the development of sound curriculum organization. A bulletin of the Association for Childhood Education International (1) discussed the influence of readiness, organization blocks, and the flexibility of promotions on the continuity of learning. Shores (35) reported trends in the direction of (a) broad-fields areas of subjectmatter as a basis of curriculum organization, and (b) including aspects of a core organization with the broad fields. Unfortunately, there has been little systematic inquiry into the problems of curriculum organization. In one study, Sand (33) found little evidence that theoretical considerations regarding continuity and sequence were reflected in practice in the social studies curriculums of four school systems he studied. Further studies of this kind are urgently needed.

Concluding Remarks

While there is an increasing volume of research literature bearing upon the learner and upon contemporary society, there is as yet relatively little research demonstrating how teachers and curriculum workers actually use such information to make crucial decisions about educational objectives for elementary schools. There is need also for the development of adequate theoretical formulations regarding both the selection and organization of learning experiences for young children. Such formulations doubtless will be difficult until there is a larger measure of agreement than now exists as to precisely what these aspects of curriculum work really involve. The development of such agreement, the formulation of a suitable theoretical framework, and the systematic testing of the theory are tasks that lie ahead. They clearly offer research workers in the field of curriculum an area of inquiry which as yet is practically untouched.

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CHAPTER IV

The Development of Thinking Processes

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CHAPTER II of this issue of the REVIEW gives the characteristics of children as one of the main influences on the curriculum. The present chapter develops further one area of children's characteristics and draws from them some implications for school programs. It emphasizes the intellectual activities of preschool and school children, not as isolated behavior but as functioning intelligence and a part of total behavior in different situations involving thinking.

Research studies on children's thinking as such are relatively meager. Mental tests are concerned with products rather than the process. Most psychological studies of perception, concept formation, and creative thinking have used college students or adults as subjects. There are at least three reasons for this neglect of direct study of children's thinking: (a) The term *thinking* as frequently used is an omnibus term. We say a child may be thinking as he cries for his cereal, urges his peers to build with blocks, or writes a paragraph for a school report. Because the term is diffuse, it has been difficult to study in an organized way. (b) *Thinking*, like other psychological processes, can be studied only indirectly by observing behavior, recording language, or keeping laboratory records (33). A child's language and thinking are closely related but not identical (36). All we can know about thinking must be a product of inductive inference. (c) No well-rounded theory of children's thinking has been presented as a guide to experimental work.

The many accounts of thinking in books on logic, including Dewey's famous statement (19), are idealized pictures rather than factual accounts of what happens in children's everyday thinking. The logician states errors in thinking, for example, but gives us no data on their frequency. Recent psychological accounts of thinking, such as those of Humphrey (36), Johnson (39, 40), Leeper (45), Symonds (63), and Vinacke (71), give small place to genetic aspects of thinking.

A Theoretical Structure for the Study of Thinking

The point of view of the present chapter is that children's thinking is neither a series of precise steps as outlined by the logician nor is it a single, unitary activity. With the research now available it can best be described in four sections:

1. *Materials* of thinking—sensations, perceptions, memories, images, and concepts.

2. *Motives* for thinking—the feelings, needs, attitudes, and habits of thought which help initiate and determine the direction of thinking.

3. *Processes* in thinking—the patterns of activity such as selecting, searching, associating, manipulating, and organizing—varying from relatively undirected to clearly directed thinking. These may be combined in association, problem solving, and creative thinking.

4. *Abilities* in thinking—the habits, technics, and guides to thinking which can be taught and learned by those who desire to improve their thinking.

As teachers and other school personnel know more about the first three of these areas, they should be better equipped to do something about the fourth area. Teaching children not *what* to think but *how* to think has long been an aim of educational programs. The above analysis may help to make the aim more concrete. Space limitations require that this chapter concentrate on the first and last categories with occasional reference to the other two.

Percepts, Images, and Memories

From birth, and even before birth, the child is equipped to respond to many stimuli in his environment. His *percepts* are what he knows of objects, qualities, or relationships as a result of his sensory experiences. Percepts grow out of sensations and may be recalled later in the form of images or memories. In turn, percepts, images, and memories develop into understandings and verbalized generalizations in the form of concepts. Both percepts and concepts may be employed in any process of thinking such as problem solving or creative thinking. Accordingly, it is impossible to overemphasize the basic importance of the child's perceptions in his thinking. Without percepts he would have no words, no memories, no imagination, and little if any learning could take place.

The infant's early learnings are largely perceptual. He begins to recognize a familiar face at about three months and to distinguish words by eight and one-half months (8). The varied and extensive nature of the child's receptors and his capacities for responding to stimulation have been summarized by Carmichael (15) and others. He develops percepts of space, time, movement, and weight thru many opportunities to manipulate toys, blocks, and other objects. He acquires social and even esthetic percepts thru contacts with children and adults. Some of these may be illustrated in his drawing and painting (2), his play (22), and his speech (46). Some of the child's difficulties in social relations and school work may result from incorrect percepts based on perceptual illusions or limited experience. In science and other school activities he may gradually learn that he cannot accept merely what *seems* to be true or that one impression only is to be trusted.

Children's images and memories are also valuable materials of thinking. An *image* is a centrally aroused experience which reproduces in part some previous perceptual experience in the absence of the original sensation. After a long controversy about "imageless thought"

and similar terms, most psychologists agree that all children use some imagery, that they differ greatly in the quantity and quality of their imagery, that vivid imagery is of no particular advantage in concept formation or problem solving, but that it may assist creative thinking in the fine arts (6, 48).

As usually used, *memory* is a generic term which may include percepts, images, and concepts. The research on content of children's memories has been summarized by Dudycha and Dudycha (20). The popular notion that children's memories are better than adolescents' or adults' memories has been scientifically refuted by Thorndike and others (67). Their data reveal a progressive increase in both logical and rote memory up to about 25 years of age. In preschool and school years, girls have a slight advantage over boys in memorizing abilities; the relationship between general-intelligence scores and memory scores is low for rote materials (approximate $r = .20$) and higher for logical materials (approximate $r = .65$).

Beginning at least as early as the study by Bartlett (7) in 1932, much recent psychological research has shown that both percepts and memories are influenced by the interests, attitudes, and needs of the observer. It is not oversimplification to say that children perceive and remember what they need and want to perceive and remember. Most experiences below three years of age are forgotten, perhaps because the young child's impressions are relatively vague and undifferentiated. The psychoanalytic point of view that early memories of emotionally toned situations may influence the total personality of the child has been demonstrated in individual cases but has not been vigorously investigated in light of the amount of forgetting of early experiences. The importance of autistic (self-directed, tension-reducing) factors in percepts, memories, and concepts has been developed by Murphy (48).

Children's Concepts

The "content of children's minds," the nature of their concepts, is probably the most thoroly studied part of children's thinking up to the present. Beginning at least with Hall's (31) classical study published in 1903, scores of accounts of what children know in science, mathematics, social studies, and other fields have appeared in educational literature. This literature, including vocabulary studies, has concentrated on *what* children understand; a few studies in psychological literature have investigated *how* children develop concepts. It is difficult to overestimate the importance of concepts. The clarity and breadth of a child's concepts are one of the best predictors of his school progress; his concepts determine pretty well what he knows, what he believes, and therefore, in large part, what he does.

Smoke (61) suggested that a concept is marked by "consistency of differential, generalized, symbolic response." (The child learns that a *car* is not a *truck;* that cars may be of many colors, makes, or styles; and that such words as car, automobile, auto, jalopy, or racer all stand

for certain varieties of cars.) Brownell and Hendrickson (13) pointed out that concepts should be differentiated in part from the overlapping categories of facts and generalizations. Experimental studies of concept formation begun by Hull in 1920 and furthered notably by Heidbreder (32, 33, 34) have concentrated largely on the use of nonsense syllables as an aid to classification in laboratory situations. Heidbreder believed that concepts evolve more easily from pictures than from verbal materials. and from verbal materials more easily than from numbers. In another study, concepts of concrete objects were obtained first, of spatial forms next, and of numbers last. Recent studies by Dattman and Israel (18), and Johnson (40) questioned this order of attainment where "equivalent perceptual instances" were supplied uniformly. Welch (72) concluded that perception of form is an important basis for generalizing below three years of age, that color often predominates between three and six years of age, and that form becomes important again after six years of age. Welch also believed that concepts organize themselves into hierarchies of relationships. Curti (17) has identified four stages in concept formation. Altho the experimentation is limited, there seems to be little doubt that concepts emerge from perceptual experiences, memories, images, and products of creative thinking. Leeper (45) has shown that both inductive and deductive thinking are involved. Both differentiation and generalization are included in the process.

The results of some of the studies of what children know in various fields have been given in previous issues of the REVIEW dealing with the curriculum. Only a few of the more recent and general studies of knowledge of concepts are mentioned here. Osgood (50) gave a theoretical summary of some of the problems in the nature and measurement of meaning. Parkhurst (51) reported in nontechnical style on "the child's world." Feifel and Lorge (25) showed that the responses of 900 children on the vocabulary test of the Stanford-Binet intelligence examination showed a preponderance of definition by use and description at ages six and seven, followed by a marked increase in use of synonyms and demonstration by ages nine and 10, while synonyms plus explanation increased up thru age 11. Vinacke (70) summarized studies of concept formation as influenced by age, intelligence, training or experience, and socio-economic status. A chapter in Thompson's (66) text on child development is devoted to concept development in young children.

Specific studies of knowledge of concepts of space and time, mathematical, scientific, social, and miscellaneous concepts have been continued. To the writer's knowledge such studies have never been adequately collected and interpreted as a whole. Ames (3) and Learned (4) made studies of space and time concepts of preschool children. Brotherton, Read, and Pratt (12) studied children's use of indeterminate number concepts such as *hardly, few,* and *several.* Martin (47) summarized quantitative expression in young children under seven categories. Schuessler and Strauss (59) and Strauss and Schuessler (62) studied

the concepts of money of two groups of children from lower- and middle-class homes and added some theoretical notes about measurement of concepts. (For example, they found that it was not until a median age of 89 months that children recognized all United States coins from a penny thru a half-dollar.) Keeslar (41) summarized studies dealing with concepts of the scientific method. In the area of social concepts Zeligs (73) studied sixth-graders' ideas about democracy and Estvan (23) the awareness of poverty. A strong current interest in the field of miscellaneous concepts is the growth of the idea of the self. Notable contributions are a chapter by Rogers (57) and books by Symonds (64) and by Jersild (38).

A section on children's concepts would be incomplete without mention of Piaget's work. Altho his methods may be criticized and his findings have not always been corroborated in American studies, the sum total of his work on children's concepts is of the greatest importance. Some of his more recent studies (52, 53, 54, 55, 56), all of which are not yet available in English translation, are of children's concepts of quantity and conservation of matter, of time, of movement, and of "spontaneous geometry," as well as a book on the formation of symbols.

Percepts, images, memories, and concepts—these are the materials of thinking which are used in the child's association, his fantasy, his problem solving, and his critical and creative thinking. Educational writing on problem solving, as found in texts on educational psychology and chapters, such as Thorndike's (68), is more adequate than in the areas of fantasy and critical and creative thinking. As suggested below, the efforts of schools to improve thinking have also emphasized the one while neglecting the other areas.

Improving Children's Thinking

A child's thinking is limited at least by his background of experience and by his mental maturity. Within these limits there seem to be certain technics or abilities in thinking which can be improved. Altho they do not constitute evidence, the large number of books written on the topic for adults suggests that there are thinking abilities which may be improved. Such books as those by Bowers (11), Flesch (27), Jepson (37), Keyes (43), and Mursell (49) are intended for older children or adults, but they contain exercises and activities in logical thinking or problem solving which may be adapted to the use of children in the intermediate grades.

Altho there are certain specific thinking abilities which may be learned, most writers on the curriculum agree that these are acquired most efficiently, not as isolated activities, but as a part of other learnings. Unfortunately, most of the articles about children's thinking are exhortations or descriptions rather than records of careful research. In some of the better discussions Blackwood (9) suggested activities for the improvement of thinking in various school subjects, and Dunning (21), Goodson

(28), Skolnik and Goff (60), and Thelen (65) suggested activities in mathematics, science, and other areas. Many accounts of social studies units which developed certain social concepts have been published in educational journals, and previous issues of the REVIEW have reported on the improvement of problem solving in arithmetic and other branches of mathematics. The close relationships between language and thinking are indicated by Hook (35), Treanor (69), and others for different levels but may be applied to the elementary school.

Farrell and Wailes (24) and Kelley (42) have emphasized the importance of perceptual experiences for improving thinking. Creative thinking has also received some attention recently. Rogers (58) has an article, and Caswell and Foshay (16) and Lee and Lee (44) have good chapters on the stimulation of creative thinking and related activities. The books by Applegate (5) and Burrows and others (14) have many suggestions for creative activities in relation to the language arts. The recent psychological interest in creativity has been outlined by Guilford (30) with some implications for school procedures.

Such discussions far outnumber controlled experiments. Examples of the latter are Grener and Raths' (29) study of thinking in the third grade and Flanders' (26) investigation of the relationships between verbalization and problem solving in the seventh grade. Bloom's (10) experiment was conducted with college students, but its methods have many suggestions for further research at the elementary-school level.

Needed Research

This chapter has suggested that the study of children's thinking is a wide-open field for research workers in education and child developments. It has offered a theoretical framework within which investigations may be conducted and which may be modified as new evidence is discovered. Space has not permitted the inclusion of some studies in the *processes* of thinking, but the chapter indicates that the only area in which much work has been done is that of children's knowledge of concepts; often these are called vocabulary studies or some form of mental measurement in educational journals. The process of problem solving has also received some attention. Many investigations of children's percepts, memories, fantasies, and the way they do problem solving, critical thinking, and creative thinking are still needed, especially in the group or classroom setting. Only then can the aim of "teaching pupils how to think" operate in most classrooms as well as in those of some gifted teachers today.

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CHAPTER V

The Development of Social Processes

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SOCIALIZATION is the development of the child's ability to relate himself successfully to the world of humanity. The provision of a section with this title in the current issue of the REVIEW reflects a shift in emphasis in recent years from social studies, defined primarily as objective subject-matter content, to the concept of "social education." This includes increased attention to the learning process used, especially with respect to its consequences in the development of desirable social attitudes and certain broad concepts of society.

This shift has its roots in a number of related academic events and in the nature of the times. Increased awareness by educators of the findings of cultural anthropologists, psychiatrists, and especially social psychologists is reflected in such publications as *Growing Up in an Anxious Age* (2), the result of an interdisciplinary group's series of conferences. A summary of research on the social studies was, of course, offered in an earlier issue of the REVIEW (4).

Virtually all the recent studies of socialization in the classroom agree on two main ideas: (a) that the group climate in the classroom is the most important factor in the child's socialization at school, and (b) that the teacher is the principal agent in establishing this climate.

Social Climate

A number of attempts have been made to describe social climate among children. Lewin and Lippitt (19) and Lewin, Lippitt, and White (20) studied the effects of social climate on children by training leaders to produce authoritarian, democratic, and laissez-faire atmospheres. Anderson (1) studied teachers from the point of view of their tendency to produce dominative or integrative behavior. Cunningham and others (9) described five types of classroom interaction, from adult rule to group self-management, while Wrightstone (33) offered a seven-point scale in his pupil-teacher rapport measurement.

The results of these and other research projects are presented here under three headings: the method of teaching, the processes at work in the classroom group, and the personality of the teacher.

Method of Teaching

Lewin, Lippitt, and White (20) found that students under authoritarian leadership tended to be apathetic when the leader was present, but aggressive in verbal challenges, bodily contact, and property damage

when the leader was absent. Moreover, there was little smiling or joking, scape-goating appeared, and the group was easily interrupted. The children expressed a feeling of cold rejection (23). They disliked their teacher more than did other groups (20). Intercommunication between the children was at a minimum, but competition for status in the eyes of the teachers was keen and raised sharp anxieties (22). Frustration was added when the authority kept the group structure too rigid (20).

Under democratic leadership, the children were less aggressive. The probability of integrative behavior, as against dominative behavior, in pupil contacts was 10 to 1 (1). When communication between the children was free-flowing, cliques changed without disrupting the group (23) and without bringing insecurity (7). The children felt a warm acceptance by the teacher (23) and expressed their greatest liking for the democratic teacher (20). The experimental laissez-faire group broke down from lack of leadership.

The Group

The general product of the group's behavior was its social climate, and according to Cunningham and others (8) good group climate was the result of conscious effort by the children with teacher guidance. This climate exists in a unique school culture, to which the children are exposed at the same time they are learning about the community culture (25). Practically all studies agree that immediate factors are dominant in establishing group climate.

In the supportive group climate the child gained security, received sanctions for his ideas, satisfied his emotional needs thru his feeling of belonging to the group (7, 13), and accepted help from others without feeling threatened (16, 22). Moreover, he dreamed his own basic goals in relation to the group and realized these in cooperation with the group (7).

Each child played several roles in the group, both ascribed and earned, and tended to "live ahead" in his roles (7). When the roles were not well defined, or were kept too rigid, the child became insecure (22), while stereotyped roles blocked participation (3). Yet, in a flexible situation, in which normal role-changing took place, a certain amount of friction was present: some children resented others for "breaking rules" (7).

Further observation of subgroups showed that a balance is likewise required for the healthy life of cliques within the group. If the teacher interfered arbitrarily, as by moving seats, resistance to change occurred and anxiety arose (22). Under weak teacher-guidance, fear predominated when bullies in the cliques filled the void of leadership (7). In contrast, where group feeling ran high, members of cliques were able to change loyalties without noticeable disturbance.

Research in group behavior suggested that the social climate was the greatest determinant of what and how the child learns (16).

The Teacher

Altho the teacher was found to be the main determinant of the social climate in the classroom, he often lacked the very qualities necessary to the proper exercise of his responsibility. The main weakness was found to be a general unawareness of his own behavior (12) and of the projections of the children toward him (6). He needed status and friendship, and of these, respect for status was condescendingly offered by the pupils (16). The teacher's unawareness of the interdependent factors at work tended to create a gap between his understanding and his application of that understanding (12, 15).

Some suggestions to increase teacher awareness and responsibility have been made. The teaching staff may analyze its beliefs and periodically review teacher behavior (12). The teacher must assume full leadership because of cultural pressure (22). He must define the role of the group and also the role of the pupils within the group (7, 22, 23, 33). Grouping should be based on the social needs of the child (17). Strong group affection can be created by developing in the group a variety of roles and a number of leadership positions (7, 25, 33).

The Curriculum

Proposals for curriculum development to promote socialization have, during recent years, arisen from two types of activity: (a) attempts to improve human relations directly thru organized activity, and (b) interdisciplinary studies involving the use of findings from a number of the social sciences.

The publications of the American Council on Education (17, 28, 29, 30, 31, 32) are of the first type and have received wide attention. Specific curriculum experiences are suggested and materials of instruction presented. Similar in principle to the American Council on Education publications is the series of more or less informal reports growing out of the Detroit Citizenship Study (10, 11, 21); the Delaware Human Relations study (5); and the Citizenship Education Project at Teachers College, Columbia University. From these and others, a stream of reports and some books are beginning to appear, and more may be expected.

Social Studies and Socialization

Robertson (24) concluded from an evaluation of the culture unit, so widely used at present, that a thorogoing reconsideration of this approach should now be undertaken. Stendler (27) reported that elementary-school children were keenly aware of social class distinctions and implied that this must be taken into consideration in the selection of learning experiences. Horn (14) reported the deliberate development of a unit on the ethical concepts related to lost and found property, as illustrative of the kind of experience that might be provided in the broader area of desirable human relationships. Since 1946, the Palmer Foundation, too, has been active in this field. Smith's survey (26) indicated the

widespread attempts to conduct character-developing activities in school. Jones (18) developed a syllabus for use in teacher-training in this same connection.

The Status of the Field

This field, despite being a generation old, is nevertheless young and comparatively unformed. It is encouraging that the number of studies being undertaken is increasing rapidly. However, those proposing to enter the field should realize that its basic organization is not yet stable.

From a consideration of the research reported here, some forms are discernible: (a) Group study in the classroom is exceedingly productive. (b) Socialization has moved from its earlier exclusive emphasis on traits to an emphasis on group behavior. (c) The number of interdisciplinary studies has increased and may be expected to increase still more. (d) Tools are being devised that teachers can use in the study of their own classrooms. This will lead to the development of increased awareness among teachers of the problems, dynamics, and opportunities for aiding the socialization of school children.

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CHAPTER VI

The Content of Early and Middle Childhood Education

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THE literature available on the content of the elementary curriculum suggests the following topics for this chapter: (a) present practices, and (b) promising trends in content. Needed research in this area will also be included.

Present Practices with Regard to Content

A considerable range of content is currently included in the elementary-school curriculum. For example, a recent report on elementary education in California (5) noted that the state education code requires that reading, writing, language study, spelling, arithmetic, civics, geography, history, music, art, health and physical education, morals and manners, fire prevention, public safety and accident prevention, and the nature of alcohol and narcotics and their effects upon the human system be included in the curriculum. Local school systems may make additions to this list, as have the Los Angeles public schools, by requiring instruction in science, industrial arts, and Spanish (6). Fogler (14) reported that the New York City elementary-school curriculum reflects much the same breadth of content. Thirty-five elementary-school systems recognized for their excellent programs were recently surveyed by Shane (39), who described their enriched curriculums with the inclusion at all grade levels of art, music, and physical education programs; and at the intermediate level, of home economics, woodshop, and science experiences.

Attention is also given in the literature to the treatment of this content as far as emphasis and time allotment is concerned. The California report (5) noted that the state education code requires that 50 percent of the school week be devoted to reading, writing, language study, spelling, arithmetic, and civics in Grades I thru VI. Givens (18), speaking before the American Association of School Administrators, cited evidence to the effect that the Three R's have first place in time and importance in every elementary-school program. Calling attention to present emphasis on the Three R's, Gray (20) reported a study of weekly time allotments to various content areas for Grades I thru VI that was included in the 1950 report of the superintendent of the Milwaukee public schools. The weekly amounts of time devoted to certain content areas in 1900 as compared with 1950 revealed decreases of approximately 10 percent in the amount of time devoted to language arts, 33 percent in the time devoted to arithmetic, and 55 percent in the time devoted to special help for pupils having trouble in any area. Comparing the same periods, the report noted

increases in the weekly time allotted to other content areas: 17 percent for social studies, 33 percent for health, 45 percent for science, 78 percent for music, and 91 percent for art.

Hanna (21) discussed the change in content in the Three R's, such as the change in spelling vocabulary, both in terms of total wordlist and grade placement of words; the broadening of arithmetic content to include content having utility and realism for society and the child; the shift in reading from sole emphasis on "word count" to at least equal emphasis on "idea count."

Warman (50) called attention to the fact that the Three R's are not enough in the determination of content. In discussing content beyond the Three R's, the California report (5) called attention to planned experiences in living democratically to improve human relations, and emphasis on such skills as critical thinking and problem solving. Children should be given opportunities to develop insights into social problems such as conservation, intergroup relationships, and international cooperation. Stephens (43) offered many practical suggestions regarding the provision of developmental experiences for young children.

Selection of content for the elementary-school curriculum also has been reported. The Shane survey (39) reported evidence that greater reliance is being placed on teacher-pupil initiative and judgment in selecting content for learning experiences. Only four of the 35 systems involved in the study followed a prescribed course of study. The majority had developed guides and handbooks suggesting content for various grade levels. Scope and sequence within a given area were left largely to the teacher's option. Six schools had adopted emergent-type curriculums, determining content on the basis of needs, interests, and purposes of children at a particular time. Two of these six schools limited this practice to Grade II and below, and Grade IV and below, respectively. The California report (5), Fogler's writing (14), and the Shane survey (39) all reflect a general acceptance of flexible curriculum planning and a retreat from detailed, prescribed content in courses of study.

Criticisms of Present Practices with Regard to Content

Elementary schools have been criticized because their curriculums do not include emphasis upon the Three R's. This kind of criticism is prevalent in present attacks upon schools, one analysis of which will be found in the articles in *Progressive Education* for January 1952 (1).

On the other hand, particularly in the first three grades, the program has also been criticized for overemphasis of the Three R's and for underemphasis of problem solving. Even young children, these critics point out, are ready to improve their knowledge of the world around them, of the field of science, and of human relations (42). According to this school of thought, a curriculum which makes reading basic to the child's initial mental training is not intellectually challenging enough.

Such a curriculum also penalizes the lower-class child because of its emphasis upon verbal facility (11).

The present curriculum track which involves study of the family in Grade I, community helpers in Grade II, Indians in Grade III, and children of other lands in Grade IV has also been criticized. Units on the family, say the critics, have largely emphasized middle-class values and have not been geared to the lower-class child (16). Units centering around the postman, the fireman, and the like have given children in the second grade an unrealistic picture of community helpers, according to these same writers (16). "Culture" studies in the fourth grade have been examined by still another writer who found these units failing on all counts where supporters of them have claimed positive results (38).

Promising Trends in Content: The Traditional Content Areas

No attempt will be made to cover all subject areas here; only those subjects where promising trends in content have been reported will be included.

Social Studies. Hill (22) examined many courses of study from various parts of the country and reported the following promising developments in the social studies: (a) a departing from primary concern for subject-matter to a growing concern for children's characteristics and needs; (b) focusing of content in kindergarten thru Grade III on the child's immediate environment—home, school, neighborhood, or local community; (c) study of the community and its needs thruout elementary school, with special emphasis at varying grade levels; (d) study of the United States regionally, in intermediate and upper-elementary grades, with single-course combination of history and geography in intermediate grades; (e) growing emphasis on learning about the people of the United States in some intermediate grades; (f) helping children gain understanding of other peoples of the world; (g) inclusion of international cooperation; (h) growing emphasis on citizenship at all levels; and (i) selection of content with a 12-year program in mind. Hill, along with others, feels that elementary-school social studies are moving toward more concern for the social development and needs of the individuals, more provision for experiences in democratic citizenship, and increased emphasis on international understanding and cooperation.

McAulay (32) examined writings of authorities, courses of study, and elementary-school geography textbooks for 1928, 1938, and 1948. With respect to geography content he found the following trends: (a) a developing concept of global, or one-world geography; (b) treatment of geography as a separate content area, serving as a basic study for the social studies; (c) more attention to geography as content in fusion with the social studies in 1948 than in 1938; (d) greater importance of geography in the primary grades; (e) less emphasis on the number of geographic facts presented to a child and more on interrelationships of specific facts;

(f) an over-all developmental program in geography in the elementary school; (g) less place-geography with descriptive subjectmatter, and more global geography relating facts bearing upon man and his home, the earth; (h) increased concern for the acquisition of sympathetic attitudes and understandings of other peoples; (i) greater use of current events, of the community, and of active experience in teaching; and (j) inclusion of conservation as a necessary part of geographic training. The writings of Coleson (10) and DeLancey (12) are typical of the literature reflecting these trends.

Renner (37) concluded that geography as a content area is losing ground. He pointed to weaknesses in present geography programs and made some definite proposals for their improvement.

Language Arts. The point of view expressed at the Sixth Annual Conference on Reading held at the University of Pittsburgh in 1950 (52) was that listening, speaking, reading, writing, and spelling should form a group of language experiences for children thruout all elementary grades. Research has been reported in the past few years in almost all of these aspects of communication.

Wilt's study on listening (51) involved questionnaire data from almost 1500 elementary-classroom teachers from 42 states, and observational data from 19 elementary classrooms enrolling 530 children in Pennsylvania. Altho Wilt found that children were supposed to listen 57.5 percent of the time in the classroom, her classroom visits indicated that the majority of the elementary-school teachers do not consciously teach listening as a fundamental communication skill. In the light of these data she feels that listening as a skill should be assigned its proper perspective in the total language-arts program. She does not question whether children ought to be passive so much of the time, nor suggest that *not* listening might sometimes be in order.

On the basis of classroom observations and analysis of oral assignments in reading, language, and social studies textbooks, Pronovost (35) found indications that the attempt to develop speech proficiency is limited. He reported numerous opportunities for children to talk, without adequate provision to train the child *how* to talk. While he did find that speech training is being given increased attention in the scope of the elementary-school program, he recommended a greater effort to integrate speech training with the total curriculum.

Reviewing problem solving and reading, Shores and Husbands (40) concluded that, on the basis of others' research findings, the ability to read effectively is at least in part determined by the area in which the reading is done; and, at least in the upper-elementary grades (and in the secondary schools), the concept of a general ability to read is challenged by one which holds that at these levels reading has become differentiated into abilities to do specific jobs for specific purposes within specific content areas. Evidence of such a concept is found in the theme of the Fifteenth Annual Reading Conference sponsored by

Gray (19) at the University of Chicago, namely, "Improving Reading in All Curriculum Areas."

In the area of spelling, Howell, (25) challenged the position that children learn to spell best from a graded spelling list. On the basis of the results of her second-grade study, she recommended a functional spelling program founded on individual writing needs.

Arithmetic. Clark (9) indicated the current issues in the teaching of arithmetic. Horn (23), in attempting to identify the scope of arithmetic in the elementary school, cited computational skill, mathematical understanding, and sensitiveness to number in social situations, along with the habit of using number effectively in such situations. He recommended the systematic teaching of arithmetic as a content area, yet felt that the need for arithmetic in other subjectmatter areas makes it possible to teach some arithmetic via integration. In the same volume, Swenson (44) and Thiele (46) discussed arithmetic content for preschool and primary-grade children and for children in the middle grades.

Bathurst (3) pointed to the usual arithmetic content in the elementary school. Younger children are taught to count and to write numbers, to add and to subtract, and how and when to use the simplest operation. Middle-grade children are taught to multiply and to divide, to decide what processes are required for the problems they need to solve, and to understand and use simple common fractions and decimals. All children are taught how to solve problems of everyday living. A study by Eddy (13) afforded an example of experience and use affecting selection of content in arithmetic. Faced with the problem of what weights and measures to teach in his sixth-grade class, he and his pupils went to adults in the community to find out what measures were functioning in their lives. On the basis of this survey, certain linear, liquid, dry, avoirdupois weight, time, money, surface, and volume measures were selected for inclusion as content. Brueckner (4) called attention to the social contributions which the study of arithmetic can make.

Science. In an effort to determine the content of elementary-school science, Pella (34) analyzed the five most widely used science textbooks series, with the purpose of identifying areas included, topics discussed, and concepts presented in each area, disregarding grade levels. Pella reported the following: (a) a fair degree of agreement in the content of the five series when the areas included are used as an index; (b) a relatively small degree of agreement in the content of the five series when the topics discussed are used as an index; (c) an extremely small degree of agreement in the content of the five series when the concepts presented are used as an index; (d) a greater degree of variation in the grade placement of the concepts than in the actual concepts presented; (e) more than 50 percent of the science concepts presented refer to the biological sciences; (f) little or no agreement among authors of present elementary science textbooks concerning what or how much science should be included in the curriculum; and (g) content of the five series

as descriptive in nature, the book having been designed to serve as a reader rather than as a science textbook.

Michals (33) compared the content of a basic-science series published in 1932 with the content of the same series published in 1946 (both by the same author) and found changes in the grade placement of certain content, and in the amount of content included from other areas such as geology or astronomy. He felt that the changes resulted from broader concepts of child development and learning.

Additional evidence pertaining to content in the elementary-school science curriculum comes from surveys of classroom practices. Lammers (29) conducted interviews with 100 elementary-school teachers concerning science. More than half the teachers said that if they were free to do so, they would base the content of their science programs on the expressed interests of children. When questioned concerning content included in their programs, they mentioned a wide variety of topics with only three—animals, plants, and weather—named by a large number of teachers. The number-one choice at all grade levels of a most suitable science topic for children was "animals." Over one-half the teachers selected "electricity" as the least suitable content. A part of a study by Hubler (26) also contains information relative to content in elementary-school science programs. He found, in working with 60 Connecticut teachers from rural and urban areas, and from Grades I thru VI, that the amount of science included in their programs varied greatly. The median number of science areas included by any one teacher was eight, and those most frequently included were, in order: air and weather, plant life, animal life, stars and planets, rocks, science in people's lives, magnetism, and electricity.

Promising Trends in Content: Newer Content Areas

One of the newer content areas is that of intergroup relations. From the research of Frenkel-Brunswik (15) and Trager and Radke-Yarrow (48), it appears that even our school beginners bring with them prejudiced attitudes which affect their relations with classmates. As a result of these researches, learning experiences for elementary-school children have been broadened to include attention to intergroup attitudes. One study (45) described the process of developing new materials for the study of human relations in an eighth-grade class. Another publication surveyed presented practices of promise in this area (39).

One of the few experimental studies in the literature was reported in *They Learn What They Live* (48), an account of the Philadelphia Early Childhood Project. One portion of this volume is devoted to a report on an experiment in changing children's attitudes and behavior. This experiment involved setting up special content for groups of second-graders organized into clubs, which met for 13 sessions. The content for the X clubs was planned to reduce the anti-democratic attitudes found in the children, while the experimental content for the Y clubs was designed to maintain group prejudices which the children had already

acquired. One of the conclusions was that "children learn prejudices not only from the larger environment but from the content of the curriculum and its values" (48: 341). The experiment also demonstrated that curriculum content can be designed to build democratic attitudes. Both negative and positive changes were measured by pretests and post-tests of the children's attitudes. In this study the post-test was conducted in the second and third weeks following the experiment. Earlier studies using only movies indicated that the change brought about by this device was short-lived. The Philadelphia project, however, involved time and activities that conceivably might effect a more permanent change, particularly if the school curriculum continues to act as a reinforcing agent for that change.

Along with helping children to understand others has come the notion that children should also be helped to understand themselves. A study by Jersild (27) analyzed written compositions of elementary-school children and revealed their concern for knowing more about the dynamics of human behavior. Maas (31) proposed a three-stage sequence of training aimed at developing among young people an understanding and an acceptance of themselves and others. The first two of these stages occurred in the elementary grades. The author described the role of the teacher as group therapist and included some precautionary remarks about teachers assuming such a role. Still a third approach is one which uses the Bullis materials as a means of teaching human relations in the classroom.

A third additional content area of promise is that of concepts and attitudes regarding social situations. Basing his work upon earlier studies, Horn (24) attempted to work out a procedure for developing ethical judgments on the part of elementary-school children in regard to lost and found property. Other areas suggested for experimentation are trespass, the relation of free speech to slander, and responsibility in certain types of highway accidents. This agrees with Smith's contention (41) that the school should build meanings which are in keeping with the times. He pointed out that ideas wear out, and that they must be altered or discarded as conditions of life change. Such concepts as civil liberties, private property, economic competition, and sovereignty should become objects of study, criticism, and reconstruction in the school curriculum.

Work in the area of sex education continues. A volume by Kirkendall (28), in which sex education is treated as a responsibility of the public schools, has a section dealing with content and materials. A study by Tuller (49) reported progress and trends in sex education in the United States. Landis (30) reported a questionnaire study of the sex information possessed by State College of Washington female students and their mothers. While he noted a great improvement in sex education between generations, a "large number" in both generations had no sex information at age 13. The study has implications for sex education in the elementary school.

Still another content area in the elementary school is that of world affairs or world citizenship, including studies of the United Nations. An evaluation of present teaching efforts in this area has been made by Todd (47). No experimental studies were reported in the literature.

With all the emphasis on the need for world understanding and international cooperation, a project at Yale University was reported by Anderson (2) concerning the teaching of a foreign language to elementary-school children. French classes were conducted in two third grades, in one fifth grade, and in one sixth grade. Two or three lessons a week of about 20 minutes each were given over a period of from two to four weeks, for a maximum total of 10 lessons. The classes were conducted entirely in French; in each period five new words were introduced, with such common things as objects in the classroom, colors, and numbers being included. Children, parents, and teachers all reacted positively to the experiment. This experimentation is to be continued.

Future Content of Elementary Education. One of the acute questions with respect to future content in the elementary-school curriculum concerns an adequate definition of "the fundamentals." Reid (36) suggested the Four C's of communication, computation, cooperation, and citizenship as fundamental content in contrast to the Three R's, and reported evidence of parent reactions in defense of her point of view. Caswell (7) noted that while literacy is an essential phase of the "fundamentals for tomorrow's schools," yet as a dominant goal, it is lacking in both intrinsic values and content. Caswell's "fundamental" content would include in addition international understanding, training for citizenship, attention to the development of personalities, the stimulation of individual initiative and self-reliance, and the development of physical health. Givens (17) urged as fundamentals the teaching of moral and spiritual values, education for citizenship, and education in the international field. The contributors to the California report (5) recognized a need for a program that would grow out of and minister to community needs, emphasize significant areas of social concern such as the necessity to conserve natural resources, include a continuous program of family-life education, make available for each individual those experiences that will help him understand his environment, and extend his environment to include the world.

Needed Research on Content. Missing from the research literature are studies of content for the elementary schools designed to answer the basic question: What should children study in the elementary school? Research and discussion have instead centered on the *process* of curriculum development rather than on the *content* of curriculum. Caswell (8) states: "The emphasis has been so great as to raise the issue of whether appropriate attention is being given to what should be achieved. Not infrequently the impression is gained that the 'process' is the whole show. So much attention is sometimes given to organizing groups, to using recorders and observers, to 'buzz' sessions, to measuring group participa-

tion, to creating a good group atmosphere, and the like, that too little thought is devoted to determining what the procedure is all for. Also, one finds that in working with pupils the position has sometimes been taken that it makes little difference what they study, so long as the 'process' employed is a sound one" (8: 212-13).

Not only has little attention been paid to content of the elementary-school curriculum, but also the research done has contented itself with surveying what is being taught. While surveys are important and useful, studies are needed to help answer questions of what *should* be taught in the elementary school: (a) What learnings are appropriate for children in the primary and the intermediate grades? (b) How much content do children learn in the typical core curriculum as compared with the more traditional type curriculum? (c) What social-psychological concepts can children effectively learn at different age levels? These and other important questions with regard to content can best be answered by experimental research.

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CHAPTER VII

General Aspects of Instructional Method

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THE current literature on method shows an increasing tendency to consider teaching method as what the teacher does to facilitate the learning of certain content by certain children under certain circumstances (41). Whereas the research literature of instructional method a decade or more in the past was often a comparison of rival methods, much less research of that type is now being done. For example, there were the studies of the laboratory method versus the demonstration method, as if the methodology of the teacher were definable and comparable apart from the teaching situation.

As the term is currently used, "modern methods" tend to be attempts to apply in teaching certain principles or generalizations about child growth and development and about how children learn. Instead of discussing or doing research on "the socialized recitation" as a specific method, we now discuss and seek to use in teaching a principle of "socialization" operating within "the social process." The application of those principles and assumptions from the areas of child development and learning which at present are considered basic principles and assumptions is at the same time so broad (in terms of interpretation) and so specific (in terms of the particular learners and settings for learning) as to make carefully controlled research studies on method rather difficult.

Charters (14) recently predicted a trend during the next half-century "from the exploration of educational ideas and concepts to the development of techniques for putting them into practice." If that prediction proves accurate, we may look for a development of instructional method far exceeding the present situation in this area.

The immediately succeeding sections of this chapter are organized in terms of some broad trends toward which recent studies of instructional method seem to be oriented. References to research reports are supplemented by references to representative summaries of research findings and by selected discussions of principles upon which teaching method should be built.

Emphasis on Changing Roles for Teacher and Pupils

As Tyler (55) pointed out in a discussion of the effect of research on understanding of the learning process, expanding concepts of learning have indicated a changed role for the teacher. A recent study of cooperative procedures at Horace Mann-Lincoln Institute of School Experimentation (36) pointed up the changing roles of both teachers and pupils as they used methods of learning which demanded new skills in human relations.

Nedelsky (43) suggested that the teacher's role should be one of so organizing the classroom situation as to give all the children confidence in their individual worth and so as to facilitate reciprocal responsibility of the individual and the group. Jenkins (31) stressed the interdependence of teacher and pupils in their classroom relationships and suggested the necessity for teachers to recognize social processes in order to be able to use them properly within the learning situation. Trow and others (54) provided a careful analysis of the roles of the teacher in instruction, in democratic strategy, and in therapy, showing that in teacher-pupil planning the teacher becomes a group member in the role of a resource person.

Rehage (45) studied two matched classes in social studies for a 30-week period. The pupil-teacher planning group did not suffer in comparison with the control group in the achievement of commonly accepted goals of social studies instruction because of the time they spent in planning. Study of development of insight into the principles of group planning, changes in the internal structure of the group, and group productivity did not reveal as many differences in favor of the teacher-pupil planning group as had been anticipated. The experimenter recommended caution in making extreme claims of superiority for the experimental method.

Benne (7) discussed the theory of cooperative planning and pointed out some of the psychological and social factors which must be considered if group planning is to result in the educational values which are claimed for it. A recent bulletin of the U. S. Office of Education (47) gave examples of activities in which teachers and children worked together effectively. Helpful suggestions as to ways in which teachers can guide such work were included.

In addition to the emerging role of the pupil as a participant in planning, recommendations have also been made that he be given more responsibility for working independently. A bulletin of the Association for Childhood Education International (4) supplied anecdotal accounts of children from the kindergarten thru the sixth grade learning to work independently.

The literature on the teacher's role as a guide for pupil development and pupil planning, and on the pupils' roles as participants in planning and in carrying out those plans, must of necessity be oriented toward learning goals. Trow and others (54) indicated three potential sources of increased motivation within the framework of group behavior: (a) goal determination by the whole group, resulting in the child's feeling that the goals are his own; (b) the supportive atmosphere in the class, helping each child to experience acceptance as a group member; and (c) acceptance as participating members, allowing each child to benefit from the contributions of all group members.

The literature indicates a trend in thinking about changing roles for teachers and pupils. However, practice in those roles under a changed methodology cannot be assumed as being widespread as far as any

available research evidence is concerned. Simpson (48) devised scales for rating self-motivation of pupils, pupil participation in setting assignments, and procedures in selection and solution of problems, as well as certain "service learnings." Results from the use of these scales by eight observers in 85 classrooms indicated that children had only limited opportunity to experience these types of participation experiences.

Emphasis on Developmental and Individualized Teaching Based on Understanding Children

Recent educational literature reflects the point of view that the teacher who changes his teaching methods from an emphasis on technics of presenting content to the guidance and direction of children's learning and development must base instructional methods on a rather thorogoing understanding of the children being taught. Herrick and Knight (24) pointed out the need for teachers to apply to the educational program the attitudes and skills gained from study of children and also suggested procedures for analyzing learning episodes to that end. Austin (6) suggested ways of utilizing an appraisal of pupils' adjustment and needs to secure maximum progress in and thru reading. Preston (44) recommended that pupil needs, interests, and abilities be utilized in the teaching of science.

The perennial problem of individual differences among learners continued to challenge teachers to develop teaching methods based on individual pupil needs, interests, and capacities within the framework of group activity and learning. Betts (8) discussed the range and various types of differentiated instruction in reading and the other language arts. Williams (58) presented the results of an experiment in which pupils in Grades IV thru VIII were regrouped in order to adjust reading instruction to their individual needs. DeWitt (18) described a method for teaching arithmetic which was individualized but rather closely dependent upon textbooks.

Students of child study and teaching method have continued to point out the dependence of successful teaching upon the concept of readiness for learning. Brownell (11) reported a study of 20 classes of fifth-grade children in skills prerequisite for successful learning of division by a two-digit divisor. Ames and Ilg presented extensive and helpful findings from their investigations of developmental trends in writing behavior (2), arithmetic behavior (29), and reading behavior (30) of children to age nine. The investigators pointed out in all three areas that an understanding of the child's present development is basic to successful teaching methods. A bulletin edited by Miel (35) includes contributions from 12 authors on the concepts of readiness for learning and continuity of learning. Burrows (13) summarized research on phonics and concluded that successful instruction in phonics must be related to mental maturity, little benefit being derived from phonics instruction before a mental age of seven years. Thompson (53) stressed the effect of both differentiated

instruction and group activities upon pupil development. A whole issue of the *National Elementary Principal* (39) was devoted to methods of teaching the skill subjects to promote child development. Stephens (49) presented several ideas for developmental experiences for primary-grade children.

Emphasis on Social Aspects of Learning and Teaching Method

In discussing changing concepts in methods of teaching, Garrison (20) pointed out that teaching is concerned with two major types of problems, those of group process and those of school achievement. Trow and others (54) also stressed the fact that every school class, being a group, must be considered in terms of intragroup relationships.

Cunningham and others (16) reported various action-research studies of the group behavior of boys and girls. Several instruments which were used in the investigations were included with suggestions for their use by teachers. Foshay (19) described an inclusive action-research project to find ways of studying the social attitudes of children and how they are learned. He pointed out the advantages of such a project in stimulating teachers to develop better technics of dealing with pupils. Horn (26) reviewed studies of children's concepts and attitudes with regard to social situations. He also presented a tentative procedure for using a group-problem method in teaching children how to live together. Blanchard (10) reviewed 15 studies of social learnings and their implications for the learning process.

The October 1951 issue of the *Journal of Educational Research* (51) was devoted entirely to questions of classroom dynamics. Included is a report by Wright and others (59) on the behavior and life situations of a seven-year-old boy thruout one full day. Twenty-three percent of the episodes took place in the classroom; 70 percent of these involved interaction with other people, indicating the significance of classroom opportunities for the study of social interaction. Thelen (52), in addition to pointing out the significance of group dynamics in instruction, outlined procedures for conducting a class on a student-participant basis and suggested solutions for some of the commonly stated difficulties in using group dynamics as an integral part of teaching method. Jennings (32) recently discussed the place of sociodrama in the classroom, stressing its usefulness as a method of learning and its contributions to the improvement of mental health and intergroup understanding.

The emphasis on learning in a social setting which runs thru the preceding references has particular bearing on the teaching of social studies in the elementary school. Deer (17) recently discussed the social studies as a program of experiences which helps children achieve social understanding, social sensitivity, and social skills. The acquisition of such learnings is heavily dependent upon methods of teaching which take social aspects of learning and teaching into account.

The prevalence of misconceptions among teachers as to the meaning of

cooperation was shown in a study by Hughes (28). She found that teachers tended to use the term "cooperate" to mean following instructions, obeying the teacher, and conforming to teacher-set patterns rather than to any dynamic concept of group interaction.

Emphasis on Meaning, Understanding, and Relatedness of Experience

Teaching methods which emphasized both meaningfulness of content and meaningfulness of process were studied in various areas of the elementary-school curriculum. The field of arithmetic had its share of these studies. One by Brownell and Moser (12) investigated meaningful versus mechanical learning of subtraction in Grade III. Approximately one-half of 1400 learning subjects were taught to subtract by using borrowing by decomposition (D); the other half, by using equal additions (EA). For each method, one-half of the groups were taught rationally; and the remaining half, mechanically. Tho Method EA was sometimes better than D when taught mechanically, Method D was generally better than EA when taught rationally. The discussion of the effect of children's previous backgrounds of arithmetic-understanding upon the results is significant for teaching method. Studies by Anderson (3) and Swenson (50) contrasted the teaching of arithmetic by methods based upon a "drill theory" and upon a "meaning theory" of learning. Anderson's results indicated advantages in transfer favoring the drill method for pupils who had shown relatively low ability and high achievement on initial tests, and advantages in transfer favoring the "meaning method" for pupils who had relatively high ability and low achievement scores initially. Swenson's results tended to favor the teaching method which stressed meaning, organization, and development of generalizations. Clark (15) and Van Engen (56) analyzed some of the issues bearing on methods for teaching arithmetic meaningfully.

The necessity for meaning and understanding as both prerequisities and as results of successful reading has been stressed. Betts (9) emphasized meaning as the central focus of basic reading instruction. Almy (1) used data from parent and child interviews and later test scores as a basis for studying the relation between children's prefirst-grade experiences and their success in beginning reading. In a discussion of the findings of research studies on the teaching of reading, Hildreth (25) concluded that the most effective methods focused the child's attention on meanings. Hardiman (22) pointed out ways of improving instruction in reading thru providing wider experiences for children and using those experiences as a basis for reading instruction.

Howell (27) conducted a six-month study of spelling activities in one second-grade classroom. She concluded that children tended to have a better writing vocabulary and more favorable attitudes toward spelling when they used individual writing vocabularies based on their own experiences rather than when they were limited to spelling lists. Rutan

(46) recommended and described a meaning approach to spelling which emphasized using words in context.

The advantages of teaching methods which stress relationships among the different areas of the curriculum have been pointed out. Harmon (23) tried out an experiment in conduction of heat in seven schools, finding it particularly effective in Grades III thru V. He called attention to the inclusion of reading, writing, mathematics, and science instruction. Keiler (33) emphasized the role of other experiences in children's growth in art creativeness. The report of a classroom experiment (38) conducted in the Baltimore Public Schools by several cooperating agencies showed in various ways the possibilities for relatedness and integration of experience to add meaning to children's learning about foods.

Sources of Additional References on Instructional Method

For the reader who wishes to study further the current status of recommendations on teaching method in various areas of the curriculum, several excellent and comprehensive publications of recent date are available. Three recent yearbooks of the National Society for the Study of Education (40, 41, 42) are especially pertinent. Broad coverage of methods currently recommended in the language arts (37), social studies (34, 57), arithmetic (21) and the Three R's (5) are also available. Besides these sources, recent issues of the REVIEW OF EDUCATIONAL RESEARCH include additional selected references.

Suggestions for Further Research

A real need for more research on teaching method is evident. In planning such research, at least four questions should be asked and answered by the researcher: (a) What educational principles or generalizations which seem to have implications for teaching method are worth testing? (b) What would the selected theory or idea mean in terms of instructional method? (c) How can the desired instructional method be set up and carried out so as to be amenable to study and examination? (d) How can the method, once put into practice, be evaluated as to its effectiveness for achieving desired instructional goals?

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CHAPTER VIII

Evaluation of the Educational Program

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A SUMMARY of the research on the evaluation of the educational program in early and middle childhood is complicated by the loose use of the term "evaluation" (64, 74, 75, 77). Shane (74) found five interpretations of evaluation current in 1950. These included: (a) evaluation as a euphemistic synonym for a testing program, (b) evaluation as a means of gauging competence of individual teachers, (c) evaluation as a process for judging the effectiveness of the over-all program of the school, (d) evaluation as an expression of values in the form of criteria for the appraisal of educational practices and conditions, and (e) evaluation as a means of studying and guiding changes in the behavior of children in ways consistent with the goals of the school.

Various attempts have been made to define evaluation (3, 16, 64, 77, 80, 99), and writers have divided this process into four (80), six (64), and even eight component parts (77). With regard to the elementary school there is almost a consensus, altho phrasings vary, that evaluation is "a continuous process of inquiry, based upon criteria developed cooperatively in the school-community, and concerned with the study, interpretation, and guidance of socially desirable changes in the behavior of children" (77).

The Theory of the Evaluative Process

Literally hundreds of books and articles have made reference to sources of values and the application of values to educational problems. Writings of Dewey (26) and Hart (35) are representative of philosophical (axiological) considerations of value which bear indirectly on childhood education. Values to be sought thru the educative process have been treated so frequently as to defy more than the most superficial mention in this review. Professional organizations, such as the Educational Policies Commission (54, 55), the Progressive Education Association (2), and its successor, the American Education Fellowship (5), foundations (15), and various individual authors (34, 43, 48, 77) have treated the sources, anatomy, or applications of values. Such writings often have their utility in the way they suggest criteria for judging school programs, human development, and teacher competence.

The theory and application of the evaluative process in the elementary school, especially since the late 1930's, is reflected in a rapidly growing body of literature. Historically, the interpretation of newer concepts of appraisal may be traced in the writings of Melby (50), Orata (62), Raths (65, 66), Taba (86, 87), Tyler (93, 94), and Wrightstone (98,

102), among others. More recently, concepts of appraisal which have elaborated the earlier interpretations were done by Herrick (38), Kirkendall (44), McNally (47), Michaelis and Howard (52), Quillen and Hanna (64), Raths (67), Rautman (69), Shane and McSwain (77), and Wrightstone (103). An entire issue of *Educational Leadership* (8) with the theme, "How Evaluate?" provided a digest of current viewpoints and information on appraisal practices. Another recent publication is a product of the California State Department of Education (17). It covered various phases of evaluation, and the bibliographies are comprehensive and well selected.

Appraisal of the General School Program

As noted previously, a considerable amount of activity in evaluation clusters around either the appraisal of the general school program or in special areas such as the social studies or the language arts. State departments of education and various professional organizations have, as a general rule, been active in over-all elementary-school programs or curriculum studies and research which are evaluative in nature (56, 80, 89, 97). Likewise, the staffs of individual schools (42, 45, 57, 71, 95, 96) have tended to be active in appraisal of the extent to which educational values are achieved. Subject-area appraisal was generally treated by individuals (9, 21, 27, 32, 85).

Some of the more educationally interesting over-all program-appraisal instruments pioneered by state departments of instructions were developed since World War II by New Jersey (56), Texas (89), and Virginia (97), altho at least 50 elementary-school devices have been developed by other state departments, for example, in Ohio, West Virginia, Arkansas, and Kansas. The Texas *Handbook for Self-Appraisal and Improvement of Elementary Schools* (89), developed by Wilson and Otto, was the most ambitious of the state projects. It contains criteria, score sheets, and a suggested study program-guide for appraising campus, equipment, curriculum, and school-home-community relations. While usually not classifiable as research documents, the state department instruments examined were often based on research data.

A recent elementary-program appraisal device is *Evaluating the Elementary School*, a guide published as part of the Cooperative Study in Elementary Education of the Southern Association of Colleges and Secondary Schools (80). Among elements appraised are the schools' conceptions of education, functions, program, resources, and planning.

It seems reasonable to generalize that almost all research concerned with over-all school-program appraisal has been of the "action" or "functional" type.

In the social studies, the problem of appraisal has been studied by Baldwin (9), Haas (32), and Wrightstone (100). Haas (32) emphasized the "comprehensive approach" to evaluating outcomes and noted that results are meaningful only as they are compared with some criterion.

He recommended observation technics as the best means to check personal adjustment of the child, contending that the only valid appraisal of the extent to which social-studies goals are achieved resides in study of pupils' real life behavior. Baldwin's (9) treatment of evaluation in the social studies was somewhat narrow; for example, he cited the increased use of standardized tests as evidence of awareness of the importance of dependable evaluation, but he also recognized the unique quality of each situation evaluated. Wrightstone (100) authored the most recent and comprehensive treatment of the social-studies field reviewed here. His "Outline for Comprehensive Evaluation" in the social studies related objectives in this field to 10 formal and informal methods of appraisal.

Early (27) considered pupil-made tests in the social studies, reporting how seventh-grade pupils developed their own content-appraisal instrument at the Western Michigan College of Education Campus School. Pupils' ability, as suggested by previous achievement, was used as a means of determining the type of questions (for example, matching, completion) which they prepared. Early felt that pupils could measure their success reasonably well, that test making was a good review process, and that children's attitudes toward tests were improved.

Grim's (30) technic for measuring social-studies attitudes reflected his belief that behavior is the least fallible index to attitudes. He developed a scale of beliefs in an experiment to gauge attitudes as reflected in pupil reactions.

Evaluation in the language-arts area was treated by several writers. Olson (61) was concerned with language-ability appraisal in the schools of Seattle, and identified evaluation with measurement in vocabulary and reading, thinking, writing, correcting errors, and preparation for communication. Thompson (90) concentrated on experimentation with speech-rating technics. Davis (22) concluded that reading tests fail to evaluate all of the important skills involved and are essentially limited to word knowledge.

Also in the realm of language appraisal, Stone (85) studied nine reading tests purportedly for first-grade use and decided that only two were satisfactory in terms of the interpretation of validity used. Grover (31), often working with older children, reported her conclusion that written compositions were a suitable means for interpreting and evaluating pupil behavior and cited cases to establish her point. In an analogous inquiry, Sims (78) dealt with essay examinations as a projective technic, with implications for the evaluator.

Other writings related to elementary-school evaluation in special fields or with reference to special topics include Spitzer's (81) review of technics for evaluating outcomes of instruction in arithmetic. He scrutinized current tests and warned that improvements in instruction may well be "hindered by the means of evaluation that we use." Five ways of improving arithmetic tests were suggested, and appraisal of more than

computational competencies, of themselves, was urged. Dean (23), following up a study by Chase, equated 1694 children to appraise the relationship between subject preferences and achievement, and inferred that the relationship was not a significant one. A rather unusual article in the "miscellaneous" category was contributed by Sands (72) who dealt in general terms with evaluating spiritual values.

Evaluation of the Elementary-School Teacher's Competence

A number of efforts were made in the last several years to study the question of determining teacher competence. Publications pertaining to teacher-personnel appraisal range from the simple checklists or scales, such as the writers obtained from Delaware (24) and from Denver University (25), to more elaborate devices like the *Ohio Teaching Record* (58). The last named is comprehensive but complicated to use. It requires repeated visits to the classroom of a given teacher and assumes insight and experience in the observer. Beecher has produced a book (10) and several devices (11, 12, 13) for studying competence. Simple forms for use with student teachers have been tried out at the University of Hawaii (95, 96). The Morrison and Ruegsegger scale (53) also merits mention as an attempt to determine competence with reference to predetermined "Cardinal Objectives of Elementary Education."

The Association for Supervision and Curriculum Development (6) has taken a stand against the more formal means of rating teachers in a recent report. McCall's recent study (46) suggested that there was little if any relationship between teacher competence, as he had defined it in terms of measurable pupil growth, and teachers' training, experience, and administrators' and colleagues' ratings. Pupil judgment proved a better index to the teacher's ability than did the more conventional measures.

Shane (76) has surveyed teacher appraisal in 35 suburban-school systems selected as "educationally interesting" and summarized the appraisal procedures identified in seven categories.

Evaluation of Changes in Children's Behavior

Research and writings which bear directly or indirectly on recording and studying changes in behavior become of particular importance if one accepts the view that the evaluative process is concerned with the study, interpretation, and guidance of children's behavior. (See definitions discussed in the first and second paragraphs of this chapter.) It is exceedingly difficult to review and summarize relevant books and articles because of their number and variety. In order to cope with the problems of quantity, the writers attempted to classify materials under the headings below.

Behavior scales and checklists used in the study of behavior and reviewed here are for the most part mimeographed or inexpensively

printed. Most frequently the items mentioned below were designed for junior-senior high-school age children but can be adapted for use with younger boys and girls. The schools of Long Beach (45) and Santa Barbara (73) produced scales that could be used with children in the upper grades. The Department of Public Instruction in Hawaii (36, 37) has developed behavior checklists for the kindergarten and primary level, and Springfield, Missouri (82), devised teachers' checklists for organizing subjective reactions indicative of "considerate" or "inconsiderate" behavior in older children and adolescents. Keene, New Hampshire (42), New York City (57), and San Diego (71) have created forms for studying group activity, general school behavior, and hobby interests. Writers in various fields, such as Michaelis (51) in the social studies, have incorporated simple behavior appraisal-scales in books or articles. One treatment of behavior scales as a whole appears in Chapters 9 and 10 of a California State Department of Education booklet (17).

Anecdotal and diary-type records as evaluative tools have become thoroly established since Traxler (92) and Hamalainen (33) published their early treatments. Chapter 12 in the 1950 Yearbook of the Association for Supervision and Curriculum Development (7), and the anecdotal records data prepared by the Division on Child Development and Teacher Personnel of the American Council on Education (4) are among the current writings. Adkins (1) has contributed an analysis of the observational technics indispensable to suitable recordings of behavior.

Projective technics as a means of appraising the inner world of childhood have continued to grow in popularity. Smith (79) has developed a kind of "workbook" which, when children make written entries, suggests unsatisfied personal-social needs. Piper (63) has created *A Story about Me* to obtain a child's emotional needs pattern. Similar instruments in use include certain of the Ohio guidance tests for elementary grades, for instance, *Who's Who in My Group?* (59) and *The Wishing Well* (60). Raths (68) recently developed an instrument called the *Van Pit Series-Wishes*, a device constructed so as to disclose some of the emotional needs of older children and youth. Bell (14), Frank (29), and Stein (84) are persons who have written, during the last several years, on the theory and practice of projective methods as means of evaluating behavior.

Interest inventories sometimes are used in conjunction with the evaluation of the educational program. Malcolm (49) discussed some of the values and limitations of these devices, while Roeber (70) attempted to analyse seven inventories with regard to the vocabulary used in each. Fox (28) considered the question of the stability of given expressed interests over a period of time.

Sociometric devices sometimes play a part in elementary-school evaluation. Because it is a study of the nature and quality of intergroup relationships, sociometry lends itself readily to the process of determining whether certain values are being achieved within the classroom. Hubley

(39) and Jennings (40) have helped to clarify the role of sociometric procedures in evaluation, as has the American Council on Education (41).

Evaluation as Measurement

Evaluation as a loosely used synonym for measurement was one of the five interpretations of the concept of evaluation mentioned in the introductory paragraph of this chapter. Wrightstone (101, 103) noted the trend toward recognizing measurement as subordinate to evaluation, and Stanley (83) pointed to the relationship between standardized testing programs and the objectives suggested by educational values. Traxler's (91) 15 criteria for a suitable testing program have proved useful to the evaluator seeking to determine the relationship between the general appraisal process and the place of tests. Another practical statement regarding the meaning of test results in appraising progress was made by Taylor (88). Finally, the student of evaluation should find provocative those reports of studies of cultural bias in intelligence testing, with their implications for evaluation of the individual, written by Davis (18) Davis and Havighurst (19), and Davis and Hess (20).

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CHAPTER IX

The Organization of the Educational Program

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THE position taken here is that elementary education is synonymous with schooling for early and middle childhood and that elementary schools are the service units thru which schooling is provided children during early and middle childhood. Altho the separate parts of elementary education (nursery school, kindergarten, and elementary grades) had different origins, educational theory has now accepted the importance of unity and continuity in educational services for children. The desired amount of unity and continuity can never be achieved as long as we continue to talk and think and write about nursery schools as such, kindergartens as such, and elementary schools as such. The extent to which the separateness of these parts still exists in thought and practice is evidenced by the complete absence of researches in which a unified approach has been made in teacher personnel, curriculum offering, pupil personnel, school facilities, school organization, or supervision for the two- to seven-year-age group. Research on administrative and organizational problems simply has not touched the supposedly unified schooling for early childhood.

The organization of the conventional elementary school continues to be in flux. Its shifting character is influenced by changes in educational theory (which have been described in preceding chapters), increasing enrolments, population shifts, school district reorganization, and changes in the internal organization for administration and supervision within school systems. The number of pupils enrolled in kindergarten and Grades I to VIII, inclusive, was 18,832,098 in 1940 (36) and is expected to reach a peak of 26,594,000 by 1957 (35). In 1790 the population of the United States was 94.9 percent rural, but by 1950 only 36.3 percent of the people lived in areas classified as rural. Between 1940 and 1950 there was an actual decrease in the rural population from 57,245,573 to 54,669,361, while the total U. S. population increased from 131,669,275 to 150,697,361. These changes in population are causing important changes in the organization of elementary schools in rural areas and are creating organizational, housing, and class-size problems in urban schools.

School Districts, School Buildings, Schools

Progress in the consolidation of school districts is changing the types of schools attended by elementary-school pupils. In 1910 there were 212,448 one-teacher one-room buildings; they comprised 80 percent of the 265,474 public-school buildings in use at that time. By 1948 the number of one-room one-teacher buildings in use had decreased to 75,096 (36). In the same year, however, there were also 17,500 two-

teacher and 7000 three-teacher schools. There were approximately 72,600 local school districts in 1951. It was estimated that about 88 percent of these had fewer than 10 teachers. Out of 67,000 districts in 35 states for which detailed reports were available, 13,000 reported no teachers (all pupils presumably being transported to other districts), 34,000 reported only one teacher, and 12,000 had at least two but fewer than 10 teachers. The percent that one-teacher schools were of all elementary schools in 1948 ranged from 7.3 in Massachusetts to 96.9 in Iowa (8). About 10 percent of elementary-school pupils attend private and parochial schools each year. In 1948 there were approximately 10,000 nonpublic elementary schools, 700 of which were nonsectarian private schools, the remainder were operated by more than a score of religious denominations. These nonpublic schools enrolled 2,451,430 elementary-school pupils in 1948 (36).

Types and Sizes of Elementary Schools

Complete nationwide data on types and sizes of elementary schools are not available. A 1948 report from 1372 out of 3796 city-school systems revealed eight-year elementary schools in 23 percent of the 1372 systems, six-year schools in 68 percent, five-year schools in 2 percent, and miscellaneous patterns in 7 percent (21). One or more kindergartens were being operated in 59 percent of these city-school systems, prekindergarten units in 2 percent, nursery schools in 11 percent, and child-care centers in 10 percent. Kindergartens are frequently not systemwide in the cities which report that kindergartens are being operated. Prekindergartens, nursery schools, and child-care centers are seldom systemwide. The net result is that school provisions for children under six years of age are scattered in location, thus making kindergartens available to less than one-half of the eligible five-year-olds, and nursery schools available only to a very few children.

The sizes of schools, in terms of number of pupils enrolled, range from one pupil in some one-teacher schools to about 3000 in a few very large city elementary schools. The enrolment in one-, two-, and three-teacher schools can be implied from the number of teachers employed in each. In 1948 about 1.5 million children, or about 6.5 percent of all public-school pupils, were attending one-teacher schools; about 2.7 percent (data from 24 states) were attending three-teacher schools, and 3.6 percent (data from 28 states) were attending two-teacher schools (8). The median city elementary school in 1948 enrolled 402 pupils (21).

Class Size and Teacher-Pupil Ratio

The only available data on teacher-pupil ratio are those published regularly in the *Biennial Survey of Education* in which the total number of pupils in average daily attendance (or in enrolment) in elementary and secondary schools is divided by the total number of teachers in such schools. In 1947-48 this ratio was 27.8 to 1 on the basis of enrolment,

and 24.3 to 1 on the basis of average daily attendance (36). The size of elementary-school classes in city school systems in 1949-50 ranged from less than 10 to more than 90 pupils, the median ranging from 25.2 in cities of 5000 to 10,000 in population, to 35.3 in cities over 500,000 in population (23, 24, 25).

Grouping of Pupils

In 1947-48, 53 percent of 1598 city school systems were using ability grouping in some form in one or more schools. The percent of cities using ability grouping ranged from 72 in cities of more than 100,000 population, to 44 in cities of 2500 to 5000 population (21). The report did not indicate whether ability grouping in these cities was used in elementary or secondary schools, or in what proportion of its schools it was used in each of the reporting schools.

The trend in recent years has been away from the more mechanical aspects of grouping and toward a greater consideration of such factors as mental hygiene (1), sociometrics (12), human relations in the classroom (26), and the various dynamics of group relations. The study by Cunningham and others (3) dealt with group goals, the individual in the group, group structure, group adjustment, and group living and the school program. Petty (27) studied intraclass grouping problems and practices in Grades I, III, and V with reference to the teaching of arithmetic, reading, and social studies. The three special aspects of intraclass grouping studied were (a) the relationship of the structure of each class to practices in grouping; (b) technics used in working with groups; and (c) the role of classroom facilities, equipment, and instructional materials in group work.

First-Grade Entrance and Grouping Problems

Studies have shown that in a typical first-grade class of 35 pupils, mental ages will range from four years and six months to eight years and six months, with fully one-fifth of the class having mental ages under six years at the time they enter school in the fall (10). Kottmeyer and others (17) reported that more than one-third of the 4000 first-graders tested were unready for systematic reading instruction at the beginning of the school term. Russell and Hill (31) concluded that about 30 percent of first-graders needed to be in smaller classes and would require more individual attention if they were to achieve satisfactory growth in the first grade. There is considerable evidence to show that under present conditions of large classes, most children with mental ages under six years experience difficulty in learning to read (20). Two reports propose directions in which solutions might be sought. Hildreth (9) outlined several plans for first-grade admission based upon chronological age. Hobson (11) reported upon the success which the schools in Brookline, Massachusetts, have had over a 10-year period in using mental age criteria for admission to first grade.

State and Local Systemwide Controls

The organization of local elementary schools must be designed in accordance with whatever state and local systemwide controls may exist. In only three states are six-year-old children included in the compulsory school-attendance age-range; children are not required to attend school until age seven in 36 states, and not until age eight in nine states (14). Permissive attendance below the lower limit of compulsory attendance is authorized in all states, but in some states schooling for children under six years of age or for children below the lower limit of compulsory attendance must be financed entirely out of local funds.

Some curriculum prescriptions by the state legislature exist in every state. Fletcher (5) found 48 different subjects and topics and 20 special activities or special days identified in the laws of one or more states. In the former group the nature of alcoholic drinks, physiology and hygiene, and the federal constitution were named in the laws of 35 to 48 states. In the latter group display of the flag, medical inspection, fire drills, and birthdays of prominent Americans were included most frequently.

No research is available to show the nature and extent of influence upon the curriculum and organization of an individual school of state courses of study, state accreditation procedures, or of local systemwide controls growing out of the administration of local courses of study, supervisory practices, or other systemwide requirements.

School Sessions

There is considerable variation in the length of the school day. In 1938-39 the length of the school day in minutes, including lunch and recess periods, in Group I cities ranged from 270 to 480 with a median of 391 in Grade I, and from 330 to 480 with a median of 400 in Grade VIII (22). The corresponding figures were somewhat lower in cities smaller than those in Group I. Data for 1948 show that the most popular hour for the opening of the morning session was 9:00 a.m., with 8:30 and 8:45 following in that order; the most popular closing hour was 3:30 p.m., followed by 4:00, 3:00, 3:15, and 3:45 in that order (21). Common practice seems to place kindergartens on half-day schedules altho some authorities in the field of early-childhood education recommend all-day sessions for kindergarten children (6, 37). Olson stated (26) that there probably are no better educational reasons for putting kindergartens on half-day sessions than there are for putting other grades on a similar schedule.

Departmentalization

In 1948, 51 percent of 1598 city school systems reported the use of departmentalization. These 1598 school systems represented a 42 percent sampling of the 3796 city school systems in existence at that time. A

significant fact to note is that 35 percent of those who reported the use of departmentalization said it was "on the way out" in their school systems (21). Out of 108 curriculum and teaching practices found in 20 departmentalized and 20 nondepartmentalized intermediate-grade classrooms, Rouse (30) found only 14 items which showed a statistically significant difference in the percent of the two groups of schools using them. On the basis of endorsement by specialists in elementary education, only one of the seven differences favoring the departmental schools was endorsed, whereas all seven of the differences favoring the nondepartmentalized schools were approved by the specialists.

Reorganization Trends in Primary Grades

The complexity of entrance, grouping, and promotion problems in the kindergarten and primary grades has led school systems in various parts of the country during the past 20 years to experiment with a variety of flexible plans. A unique plan is the monthly admission scheme in South Plainfield, New Jersey (7). Vestibule classes, prefirst grades, and junior first grades have been established by other school systems for children chronologically old enough to enter first grade but otherwise unready for the first-grade curriculum. Flexibility in organization of the primary grades, rather than alterations in entrance age or progress rate, characterize the more recent innovations (2, 4, 13, 18, 19, 28, 29, 32, 33, 34). Systematic appraisal of these plans is meager, Kelly (15, 16) having provided the only recent attempt at evaluation. In 1948, 17 percent of the 1598 city school systems included in a survey reported one or more schools in each system in which pupils were classified by divisions rather than by grades (3).

Needed Research

There is probably no phase of education in which research is needed more than in the area of elementary-school organization and administration. With few exceptions, the research now available consists of surveys of present practice. Altho survey data are valuable, only hit-or-miss progress can be expected in an area unless surveys of present practice are generously interspersed with experimental studies. Every topic treated in the preceding sections is in urgent need of carefully designed studies that will result in better guideposts to action than are now available. Other topics in need of research are: (a) optimum size of elementary schools for effective and economical administration, supervision, and instruction; (b) the impact of enrolment and attendance factors upon the organization of the school; (c) the relation between curriculum and organizational practices and school-plant facilities; (d) the influence of state and local systemwide controls upon the nature of educational services to children; (e) the relation between instructional practices and the design of the curriculum; (f) articulation between grades and between the units

of the 12-grade program; and (g) the relationship of school time (the school day) and the way in which this time is used in terms of the objectives stressed by the school and the activities in which the children engage. No doubt each reader could add a dozen or more specific problems in need of research attention. The opportunities are extensive and the need for research is urgent.

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